



MONTANA

Primary Care Needs Assessment

Montana Department of Public Health and Human Services
Primary Care Office
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Executive Summary

The purpose of the Montana Primary Care Needs Assessment is to better understand the performance and challenges of the primary health care system in Montana in order to more effectively align the primary care workforce with the health care needs of the population. The first section of the assessment begins with a description of vulnerable populations followed by a description of key factors influencing the delivery and utilization of primary healthcare services in Montana. The second section explores whether high health professional shortage area (HPSA) scores align with counties that have the highest rates or percentages of poor health outcomes or lowest rates or percentages of primary care utilization. The third section describes existing programs and partners that assist in the implementation of activities that reduce healthcare barriers in Montana. The final section provides recommendations for how to better support the primary health care workforce.

The primary healthcare workforce is only one factor among a web of intersecting variables that impact health. Access to primary care services does not guarantee utilization, but utilization cannot happen without access. HPSA designations play a critical role in directing resources to improve access. However, HPSA scores are not necessarily reflective of communities with the highest unmet health needs in Montana.

This assessment did not find strong trends between health indicator data and HPSA scores. While there are slight to moderate trends between some health outcomes and HPSA scores (*i.e., immunizations and mortality rates*), these trends do not explain the nature or degree of the association. A more complex and regular analysis of a more complete set of provider data and health indicator data is needed to assess trends over time and circumstance.

HPSA scores may not be reflective of communities with the most need in Montana because the scores are derived from standardized scoring criteria. Scoring criteria are based on geographic and demographic measures that differ from the unique geography and demographics in Montana. Furthermore, HPSA scores may not be an accurate reflection of workforce shortages because they do not count National Health Service Corps (NHSC) providers that serve in many Montana communities.

While it is not clear if or how HPSA scores and the primary care workforce align with health outcomes and utilization, it is clear that the areas that have the greatest unmet health care needs and disparities are American Indian populations and counties in the eastern Montana region. Programs and partners can more effectively direct funds to areas with the greatest workforce needs by considering recruitment and retention factors relevant to Montana communities, in addition to HPSA scores. Some additional factors include, but are not limited to: 1) distances to urban centers more relative to Montana's vast frontier landscape, 2) the percentage of aging population, 3) the length of time the community has gone without a provider, or the length of time an organization has spent recruiting a provider, 4) available housing, and 5) the quality of schools in the community.

I. INTRODUCTION

The Montana Primary Care Office (PCO) is located in the Family and Community Health Bureau of the Montana Department of Public Health and Human Services. The mission of the MT PCO is to increase and maintain access to primary and prevention health care in Montana to improve the health status of underserved and vulnerable populations.¹ To accomplish this endeavor, the PCO administers grants from the U.S. Department of Health and Human Service's Bureau of Health Workforce and Bureau of Primary Health. This involves collecting data and conducting analyses for health professional shortage area (HPSA) designations, providing technical assistance and allocating funding to hundreds of providers and organizations in accordance with state and federal guidelines to improve access to primary care across the state.

Purpose. The purpose of this statewide primary care needs assessment is to:

- Explore factors associated with the delivery, access and utilization of primary health care in Montana;
- Explore whether high health professional shortage area (HPSA) scores align with counties that have the highest rates or percentages of poor health outcomes or lowest rates or percentages of primary care utilization; and
- Identify programs and partners that assist in the implementation of activities that reduce healthcare access barriers.

A major focus of this needs assessment was to identify and integrate key state and national data sources that illuminate the health status of Montana communities and review these data alongside primary care workforce data. This needs assessment can serve as a baseline from which stakeholders can begin the conversation about how to best advocate for the primary care workforce and prioritize funding. Stakeholders can use this as a baseline to identify additional risk factors, barriers, partners and communities in need, and policy-makers can better understand the performance and challenges of the primary health care system to more effectively align the primary care workforce with the health care needs of the population.

Why Primary Care. There is wide agreement that primary care is essential to fixing the challenges of inefficiency, uncoordinated care and medical errors in our healthcare system. Primary care clinicians oversee healthcare for their patients across the full spectrum. Their importance includes:

- ☐ being the first point of contact for undiagnosed health problems;
- ☐ comprehensive, whole-person care;
- ☐ building longitudinal relationships that are important for understanding an individual's health over time and treating chronic problems; and
- ☐ coordinating across other health services.²

When available, primary care in rural areas is the only available health care. While primary care is critical to improving the delivery of health care services and overall health of the population, there are significant challenges faced by primary care providers in Montana. For this needs assessment, primary care includes family practice, OB/GYN, internal medicine, general dentistry, and mental health specialties.

II. STATE OVERVIEW: Risk factors associated with access, delivery and utilization of primary care

VULNERABLE POPULATIONS

American Indians. Race, as a social construct, has real consequences for the life experiences and opportunities of American Indians. Differential exposure to risk between American Indian populations and White populations in Montana are evident as race intersects many of the factors described below. The increased exposure to risk among American Indian populations translates into increased incidence and prevalence of poor health outcomes described in section III. Montana's Indian people have poorer health, higher disease rates, lower life expectancy and greater difficulty obtaining healthcare than other Montanans.³

Montana's racial make-up is predominately white, with a 2013 census estimate at 89.5% of the population. American Indians make up the largest minority, at approximately 6.5%.⁴ The ethnic Hispanic or Latino population is only 3.3%, compared to 17.1% nationwide.⁴

There are twelve tribal Nations of Montana, located on land bases on seven reservations around the state. Each has their own history and culture, and each is ruled by their own independent and sovereign governments.⁵ The seven federally recognized tribal entities are the: Confederated Salish and Kootenai Tribes of the Flathead Reservation; Blackfeet Tribe of the Blackfeet Indian Reservation of Montana; Crow Tribe of Montana; Fort Belknap Indian Community of the Fort Belknap Reservation of Montana; Assiniboiné and Sioux Tribes of the Fort Peck Indian Reservation; Northern Cheyenne Tribe of the Northern Cheyenne Indian Reservation; and Chippewa-Cree Indians of the Rocky Boy's Reservation.⁵

Montana also includes the Little Shell Tribe of Chippewa Indians, a tribe recognized by the State of Montana and currently petitioning for federal recognition.⁵ The Little Shell does not have a reservation but the majority of its members live in the Great Falls area.⁵ Each tribe is shown on Figure 1.

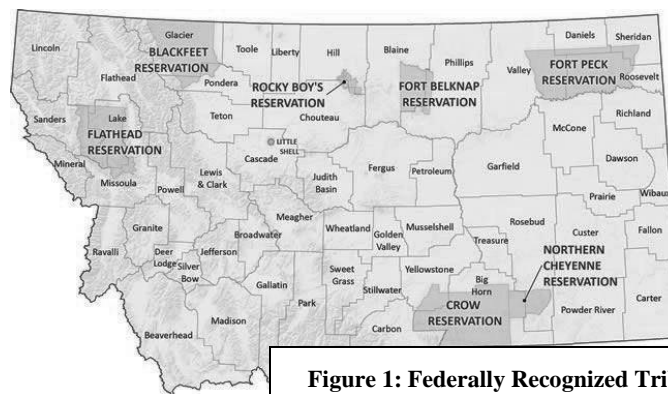


Figure 1: Federally Recognized Tribes⁵

I have gingivitis and have been getting serious infections in my gums; my gums are so infected that I will likely lose my teeth soon, unless I can get treatment. My only major health problem is my lack of regular dental care — but the infections in my gums cause me numerous other health problems including vomiting and headaches. It is hard to function, and to take care of my family when I am in so much pain.

Recently, my health problems because of my gum infections were so bad I had to go to the emergency room. I never saw a dentist at the hospital. The doctor gave me antibiotics and pain medication, but I could not get any follow-up treatment.

I do not have access to regular dental care through IHS. The nearest IHS facility I can use is 45 miles away. Because I have lived off of the reservation for over 180 days, the only services I can use there are pharmacy and emergency dental services. Emergency dental services are only provided from 8 a.m. to 9 a.m. on a first-come first-served basis. The line forms early, and often the line is so long everyone does not receive care. Even if I could get regular care, I have no way to get there and back: I have no car, there is no public transportation, and I have no money to pay for transportation, gas, or a babysitter for my four children.

-Jane Doe

(Example from Northwest Federation of Community Organizations
-2003- Montana People's Action/Indian People's Action)

Veterans. Montana has the highest rate of veterans per capita in the United States, with 102,986 veterans. Roughly 1 in 10 people in Montana are veterans.⁶

There are Veteran's Administration (VA) primary care clinics in larger population centers, including: Anaconda, Billings, Bozeman, Cutbank, Glasgow, Glendive, Great Falls, Havre, Kalispell, Lewistown, Libby, Miles City, and Missoula. In addition there are telehealth appointments available for basic services.⁶ Montana's Veterans have access to major VA health care centers in Columbia Falls, Glendive, and Helena. Still, many veterans travel several hours to access care.⁶

In November 2014, the Veterans Choice Program was implemented.⁷ The program is designed to alleviate access issues for Veterans. This program allows veterans enrolled in VA health care faced with unacceptable wait times and inaccessible facilities to receive care from a non-VA health care provider.⁷ Unacceptable wait times are defined as 30 days from when the veteran wishes to be seen. Inaccessible facilities are defined as facilities more than 40 miles away from the VA; if travel requires by air, boat or ferry; or if there are geographic challenges, environmental factors or a medical condition requiring frequent or additional care.⁷ One report stated that nearly 60% of veterans statewide are not enrolled in VA Montana Health Care Services, indicating significant need.⁸

Despite having a VA Medical Center in Montana, recruiting and retaining qualified mental health providers has been an ongoing issue. A March 6, 2012 Helena Independent Record article stated that the VA Medical Center was still recruiting three full-time psychiatrists, resulting in Veterans leaving the state for treatment. The lack of mental health providers is not limited to Helena. Fifty-four (96%) of Montana's 56 counties are Mental Health Professional Shortage Area designations. On average in the United States,

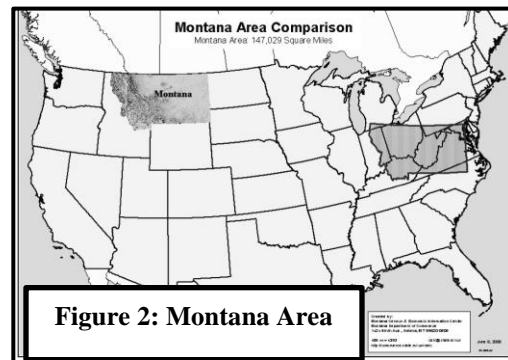
a veteran dies by suicide every 80 minutes. In Montana, between the years 2004 and 2013, there were 566 veteran suicides.⁹

Aging. “Montana’s aging population has cascading effects on overall demand for healthcare workers, with several influencing factors. First, according to the U.S. Census, 15% of Montana’s population is 65 or older, while 29% are 55 and over, making Montana one of the oldest states in the nation. Older folks use disproportionately larger share of healthcare in the U.S. In fact, those aged 85 and over consume three times as much health care per person as those aged 65-74, and twice as much as those aged 75-84.3.”¹⁰ According to the US Census Bureau, Montana’s elderly population is projected to increase to approximately 25% of the state’s population by 2025, ranking Montana 5th in the nation for the 65 years and older age group.

The aging of the population will have a major impact on the delivery of primary health care. Medical advances allow individuals to live longer healthier lives, but also require use of more healthcare services. Management of chronic illness requires a more intimate patient-provider relationship that involves more frequent interactions. This puts additional pressure on an already strained shortage of primary care providers.

The aging population also impacts the healthcare workforce as many baby boomers reach retirement age. In 2011, 34% of Montana’s PCPs were 55 or older, and 25% of all active Montana physicians are age 60 or older and face the possibility of retirement within the next five years.¹⁰

GEOGRAPHIC SIZE and POPULATION DENSITY. Full appreciation for the utilization and delivery of the primary health care system in Montana requires an understanding of the unique challenges presented by its vast size and small population. Montana is the fourth largest state in the United States, with an area of 147,029 square miles.¹¹ The 630 miles from eastern to western Montana is greater than the distance between Washington, D.C. and Chicago (See Figure 2).

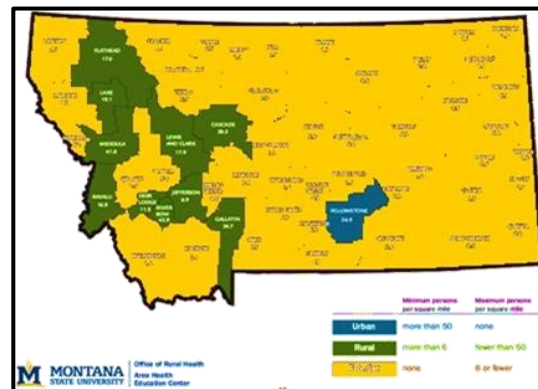


In addition to the vast size, Montana ranks 49th in population density with approximately 6.8 people per square mile.¹² This greatly contrasts Washington D.C.’s population density at 9,856.5 people per square mile.¹² There are 10 rural counties, and only 1 urban county. The definition of “rural” counties varies considerably. The US Census Bureau defines rural counties based on what is not urban, which is defined as populations of at least 50,000 or a total land area less than two square miles and a population density of 1,000

persons per square mile.¹⁴ Of 122 incorporated cities and towns, only 7 communities have populations over 20,000 people; and 74 of the 122 incorporated towns have populations of less than 1,000 people.¹³

Frontier counties encompass 90% of the total area of the entire state (Figure 3). Frontier counties are defined as counties with six or fewer persons per square mile.¹⁴ Frontier areas are the most remote and sparsely populated places along the rural-urban continuum and face challenges in providing access to primary care even greater than the challenges faced by other rural communities.¹⁴

Figure 3: Montana Rural, Urban, and Frontier Communities



Travel is often required between frontier communities and major population centers to access health care, social services, and even shopping for basic household goods. Cost and time required for travel can be significant challenges to accessing care. Table 1 illustrates the great distances between rural and frontier communities to urban areas.

Table 1: Distance in road miles from select rural and frontier communities to urban areas (one-way)	
Glasgow to Billings	276.9 miles
Wolf Point to Billings	315.62 miles
Miles City to Billings	144.12 miles
Broadus to Billings	220.95 miles
Kalispell to Missoula	144.14 miles
Whitefish to Missoula	161.31 miles
Dillon to Helena	145.47 miles
Havre to Great Falls	113.91 miles
Lewiston to Great Falls	105.41 miles
Gardiner to Bozeman	78.15 miles

Distances calculated using Mapquest.com. Routes are Interstate

Reservations were intentionally located far from urban centers, though the distance varies from one reservation to another.¹⁵ For example, the distance between Wolf Point, MT (Fort Peck Reservation) to the nearest urban center is approximately 316 miles one-way. The distance between Browning, MT (Blackfeet Reservation) to the nearest urban center is approximately 124 miles one-way. Indian Health Services are located in rural areas on reservations, so American Indians living in urban areas without health insurance have to travel these distances in the opposite direction to access care. The cost of traveling these

great distances to access services often outweighs the benefits.

Public transportation is not available in most communities, which makes it difficult for the elderly and people with disabilities who rely on other community members for rides to access services. For Montanans who are underemployed, unemployed, or on limited budgets, receiving Medicaid or Medicare, spending money on gas might be overshadowed in favor of heating their home or other necessities. According to the 2013 Behavior Risk Factor Surveillance Survey (BRFSS), 16% of Montanans reported delaying care due to lack of transportation.

Another barrier to accessing care is the volatile weather and road conditions. Steep mountain passes are at times inaccessible during winter. Travel also can be inhibited by the high winds that blow over the vast plains year round as well as severe winter blizzard conditions.⁹ These conditions make travel impossible for non-emergent reasons, which may result in delaying routine and preventative care.

In the fee-for-service health care system, training and employing primary care providers is challenging in sparsely populated areas. Rural, and especially frontier areas, cannot easily compete with the wages, work flexibility and social opportunities available to providers in metropolitan areas. Clinics and hospitals in rural and frontier areas of Montana are reliant on the programs described in section IV to recruit and retain primary care physicians.

EMPLOYMENT. According to the MT Department of Labor & Industry (DoLI) 2013 Labor Day Report, Montana's unemployment rate was at 5.2% as of November 2013. Health care, mining, leisure activities, and trade continued to lead job growth during the economic recovery, with the manufacturing sector also posting strong job growth. The reservation areas are the most economically sensitive areas of our state, with unemployment rates two to three times higher than the surrounding region.

The unemployment rates for American Indians in Montana are much higher than the rest of the population at roughly 24% according to the 2012 American Community Survey.¹⁶ The higher unemployment rate is partially due to American Indian populations being concentrated in rural areas on reservations, but even American Indians living off reservations face higher unemployment rates than other Montana workers.¹⁶

From 2001 to 2011, Montana's annual job growth averaged 1.1% for payroll jobs, and 0.5% for all jobs including the self-employed. Projected job growth is expected to be at 1.4% to 1.5% in the future. Projected growth varies widely by industry, however, with the fastest growth expected in health care, business services, and natural resources (particularly mining of oil and gas).

POVERTY. Montana had a higher poverty rate than any of the adjacent states (Idaho, North Dakota, South Dakota and Wyoming) from 2000-2009 but from 2009 -2011 Idaho's rate climbed higher than Montana. All of the states realized a substantial decline in the poverty rate between 1995 through 2000; however, from 2000 to 2009 poverty rates have been stable to increasing.¹⁷

The individual poverty rate in Montana has remained above 14% since 2005. Estimates from 2011 indicate a poverty rate of 15.5% exists in rural Montana, compared to a 14.8% level in urban areas of the state.¹⁷ In 2012, the poverty rate rose slightly in Montana to 14.9% slightly higher than the 14.8% U.S. national average. There is a large difference in poverty rates between counties. Five counties, Sanders, Pondera, Musselshell, Liberty, Blaine, and Wheatland had poverty rates of over 35%, while Jefferson, Sheridan and Granite had poverty rates of less than 10 percent.¹⁶

Poverty disproportionately impacts families with young children. Research suggests that, on average, families need an income of about twice the federal poverty threshold to meet their most basic needs. Children living in families with incomes below this level—\$47,248 for a family of four with two children in 2013—are referred to as low income.¹⁸ Seventy-eight percent of young American Indian children in Montana live in low-income families compared to 47% of young White children in Montana who live in low-income families.¹⁸ Table 2 lists the percentage of children eligible for free and reduced lunch by county sorted from highest to lowest percentage.

Table 2: Percentage of children eligible for free and reduced lunch and HPSA Scores by county				
County + Partial County HPSA	% children eligible for free and reduced lunch*	Primary Care**	Dental Care**	Mental Health**
Big Horn	95%	9	19	16
Roosevelt	80%	13	20	19
Glacier	79%	15	-	20
Blaine	70%	14	18	20
Petroleum	58%	7	9	17
Hill	56%	14	18	20
Sanders	54%	15	12	20
Rosebud	49%	11	18	19
Golden Valley	47%	12	9	12
Lake	47%	16	20	22
Lincoln	47%	15	-	19
Mineral	45%	15	-	18
Deer Lodge	41%	17	-	19
Phillips	39%	14	10	19
Prairie	38%	8	-	19
Treasure	38%	8	6	19
Meagher	37%	14	-	13
Musselshell	37%	15	-	12
Valley	37%	12	-	19
Pondera	36%	11	17	20
Ravalli	35%	16	16	20
Cascade	33%	8	18	17
Carter	32%	18	-	19
Missoula+	32%	16	-	14
Silver Bow	32%	17	18	19
Broadwater	31%	12	-	13
Granite	31%	13	10	11

Chouteau	29%	15	20	20
Fergus	29%	-	-	17
Powell	29%	17	-	13
Custer	28%	18	-	19
Yellowstone	28%	-	-	-
Park	27%	12	-	14
Flathead	25%	13	14	17
Toole	25%	8	-	20
McCone	24%	12	-	19
Beaverhead	23%	12	18	18
Lewis and Clark ⁺	23%	14	-	17
Teton ⁺	23%	16	13	20
Liberty	22%	18	-	20
Madison	22%	13	14	13
Gallatin ⁺	21%	9		14
Judith Basin	21%	16	9	17
Jefferson	20%	-	-	11
Carbon	19%	-	-	14
Dawson	19%	-	-	19
Garfield	18%	12	-	19
Powder River	18%	13	-	13
Sheridan	18%	16	18	19
Stillwater	17%	12	-	11
Wibaux	17%	18	-	19
Richland	16%	13	-	19
Daniels	14%	15	10	19
Sweet Grass	14%	15	-	12
Fallon	11%	18	-	19
Wheatland	5%	14	12	17

Date Source: *Robert Wood Johnson. University of Wisconsin Population Health Center (2016) County Health Rankings. Accessed at <http://www.countyhealthrankings.org/app/montana/2016/overview>

**Health Resources and Services Administration. (2016) Data Warehouse. HPSA Find Results. Accessed at <http://datawarehouse.hrsa.gov/tools/analyzers/HpsaFindResults.aspx> on March 14, 2016.

The poverty rate for individuals 65 years of age and older was lower in Montana (9.2%) than in the U.S. (9.8%), but there is large variation between counties.¹⁶ The highest poverty rates for this age group were realized in Rosebud and Wheatland counties, where poverty rates exceeded 20%, while the lowest poverty rates were realized in Phillips, Fallon, Mineral, Treasure and Stillwater, where poverty rates were less than 5 percent.¹⁶

HEALTH INSURANCE

Uninsured. In a report prepared for the Montana Office of Securities and Insurance, The University of Montana Bureau of Business and Economic Research (BBER) estimates that nearly 1 in 5 (20%) Montanans are uninsured. A majority of uninsured Montanans are white and Native American adults 19-64 years of age, and have a high school education or less. The uninsured are predominantly males who work seasonal part-time

jobs, often with more than one employer, and yearly incomes 100 percent of the federal poverty level.

There are several factors contributing to Montanans being uninsured. For most, 76%, they are involuntarily uninsured. Factors contributing to involuntarily being uninsured include: loss of employment, expensive premiums, and low paying jobs. For those who are voluntarily uninsured reasons include: difficult enrollment process, lack of trust in federal insurance programs, and less perceived need for health insurance due to age or health status.

Lack of health insurance in Montana has led to exorbitant medical debt in Montana. The MT BBER estimates that “medical debt in Montana is almost 2 percent of the entire state’s gross domestic product in 2011, accounting for \$650 million. Nearly 1 in 4 uninsured report medical debt, averaging over \$9,000 per household. Medical debt among the insured is almost \$4,000 per household, but less than 9 percent of households with health insurance report medical debt.”¹⁹

Medicare/Medicaid. Montana has 67% of Medicare beneficiaries residing in rural areas compared to 21% nationally, ranking it 3rd in the nation. Sixteen percent of all Montana residents are enrolled in Medicare.²⁰

Montana's State Children’s Health Insurance Program to provide health coverage to low-income children is called Healthy Montana Kids. The upper limit to qualify is a household income of 250% of the Federal Poverty Level. Between March 2012 and March 2013 the combined enrollment increased 9.8% to 98,748.²¹

In November 2015, the Centers for Medicare and Medicaid Services approved Montana’s implementation of the Health and Economic Livelihood Partnerships (HELP) program to expand Medicaid under the Affordable Care Act as of January 1, 2016. The expansion is estimated to cover an additional 70,000 beneficiaries. Adults who are newly eligible for Medicaid under Montana’s expansion are parents from 50-138% of the federal poverty level (FPL) and childless adults from 0-138% FPL (up to \$16,242 per year for an individual in 2015).²² The HELP program also expands coverage of dental services to all adult enrollees. The benefits have a cap of \$1125 per year for restorative services.²³

Table 3 provides a list of the number of current and eligible enrollees per county sorted by the single county HPSA scores from highest to lowest. HPSA scores range from 1 to 26, where the higher scores indicate a higher need. National Health Service Corps (NHSC) prioritizes funding based on HPSA scores. Federal NHSC provided loan reimbursement to providers in some areas with scores of 14 or above in 2015. Primary care providers in approximately half of MT counties are not eligible for federal NHSC loan reimbursement, which requires a minimum HPSA score of 14.

Table 3: Current and Newly Eligible Medicaid Enrollees by County			
COUNTY + Partial County HPSA	Number of current Medicaid enrollees*	Number of newly eligible Medicaid enrollees*	Primary Care HPSA Scores for Single County**
Wibaux County	60	51	18
Carter County	80	92	18
Fallon County	180	132	18
Liberty County	160	183	18
Custer County	1,270	634	18
Powell County	710	360	17
Deer Lodge County	1,190	572	17
Silver Bow County	4,800	2,222	17
Sheridan County	240	152	16
Judith Basin County	150	163	16
Lake County	5,110	2,534	16
Ravalli County	4,820	2,846	16
Missoula County ⁺	12,080	8,597	16
Teton County ⁺	590	412	16, 11
Daniels County	120	76	15
Sweet Grass County	210	221	15
Mineral County	680	303	15
Musselshell County	620	348	15
Chouteau County	400	492	15
Sanders County	1,420	994	15
Glacier County	3,210	1,416	15
Lincoln County	2,770	1,530	15
Wheatland County	210	155	14
Meagher County	270	159	14
Phillips County	600	316	14
Blaine County	1,309	707	14
Hill County	3,140	1,155	14
Lewis & Clark County ⁺	6,530	2,795	14
Powder River County	80	109	13
Granite County	240	196	13
Richland County	640	479	13
Madison County	490	510	13
Roosevelt County	2,900	973	13
Flathead County	11,750	6,276	13
Golden Valley County	100	79	12
Garfield County	100	115	12
McCone County	80	131	12
Broadwater County	450	361	12
Stillwater County	700	406	12
Valley County	970	432	12
Beaverhead County	860	717	12
Park County	1,460	1,047	12
Pondera County	950	496	11
Rosebud County	1,710	629	11
Big Horn County	3,640	1,250	9

Gallatin County ⁺	6,030	5,315	9
Treasure County	60	45	8
Prairie County	110	70	8
Toole County	500	282	8
Cascade County	9,130	4,661	8
Petroleum County	30	45	7
Dawson County	670	383	No HPSA
Jefferson County	960	495	No HPSA
Carbon County	810	577	No HPSA
Fergus County	1,130	725	No HPSA
Yellowstone County	16,550	7,215	No HPSA

Data Sources: * Montana Budget and Policy Center (nd) Impacts of Medicaid Expansion by County. Accessed at <http://www.montanabudget.org/impacts-medicaid-expansion-county/> on March 13, 2016.

**Health Resources and Services Administration. (2016) Data Warehouse. HPSA Find Results. Accessed at <http://datawarehouse.hrsa.gov/tools/analyzers/HpsaFindResults.aspx> on March 14, 2016.

The HPSA scores in Table 2 do not include facility-specific scores for safety-net facilities such as community health centers (CHCs), rural health centers (RHCs), and Indian Health Services (IHS) (Figure 29). Uniform Data Source (UDS) data indicates 43.3% of patients served by Montana CHCs have no insurance coverage, compared with the national average of 29.3%. While the Medicaid expansion extends coverage to many in this group, nearly half of CHC dental staff say they do not have the staffing capacity to serve this Medicaid expansion population.²³

Private Insurance. Montana had the lowest proportion of private sector establishments offering health insurance in any U.S. state at 38.4%, with the national average at 50%. Still, with the implementation of the Affordable Care Act (ACA) a significant majority (92%) of non-elderly workers have employer coverage health insurance.²⁴

Out-of-pocket costs for insurance and cost-sharing are accounting for higher percentages of incomes in all states compared with 2003. Premiums averaged between 20-24.9% of the median household income for populations under 65. Montana ranked 3rd in the nation for highest average deductibles (Figure 4).²⁵

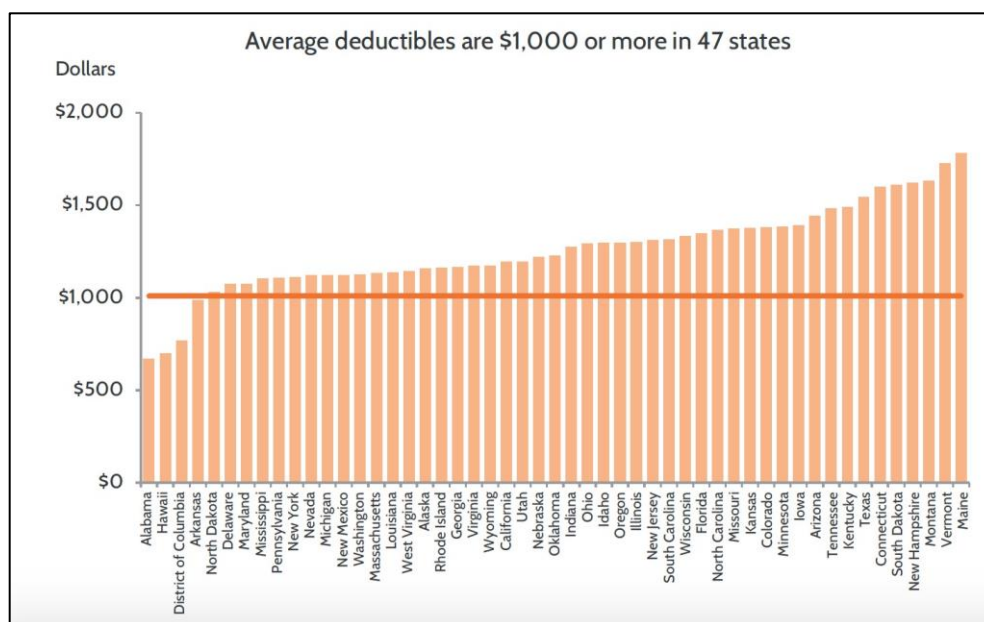


Figure 4: Single-Person Deductible, by State, 2013²⁵

Although the rate of increase has slowed in most states since 2010, the combination of higher premium shares and higher deductibles contribute to widespread public concerns about rising health care costs.²⁵ For many workers and their families, the slowdown has not made a difference in their wallets. Indeed, for many people with employer health benefits, out-of-pocket cost burdens are consuming a greater share of income.

GRADUATE MEDICAL EDUCATION. Another factor contributing to Montana's shortfall in primary care physicians is rooted in our lack of a medical school. While a medical school in a state with the population size of Montana would be extremely costly and likely inefficient, other options and an alternative structure currently exist. Montana currently is able to educate Montana residents through a cooperative medical education program at the University Of Washington School Of Medicine that involves residents from Washington, Wyoming, Alaska, Montana, and Idaho known as WWAMI. The WWAMI program educates students at a significantly lower cost than other education models and inspires students to practice primary care in rural areas, which is the highest area of need for physicians in Montana.¹⁰

Each year, about 60 Montana residents enter medical schools, and 30 of them are educated through the WWAMI program. Because the WWAMI program gives incentives to practice primary care, particularly in rural areas and at much lower cost than traditional medical schools, students are not overwhelmed with debt and are more likely to practice in Montana where salaries are significantly lower. According to the January 2013, MT DoLI Economy at a Glance report, 55% percent of Montana students graduating from the WWAMI program return to practice in Montana, while only 39 percent of Montana residents educated outside of the WWAMI program end up returning to Montana.¹⁰ Currently, there are 30 WWAMI slots available for Montana residents.

ACCESS. Montana ranked 36th in access and affordability of health care by the Common Wealth Fund. Currently 51 of 56 counties are designated as single or partial county primary care Health Professional Shortage Areas (HPSA), 25 of 56 counties are designated as single county dental HPSAs, and 55 of 56 counties are designated as single county mental health HPSAs (Figures 5,6,7).

Figure 5: Primary Care HPSA Map¹

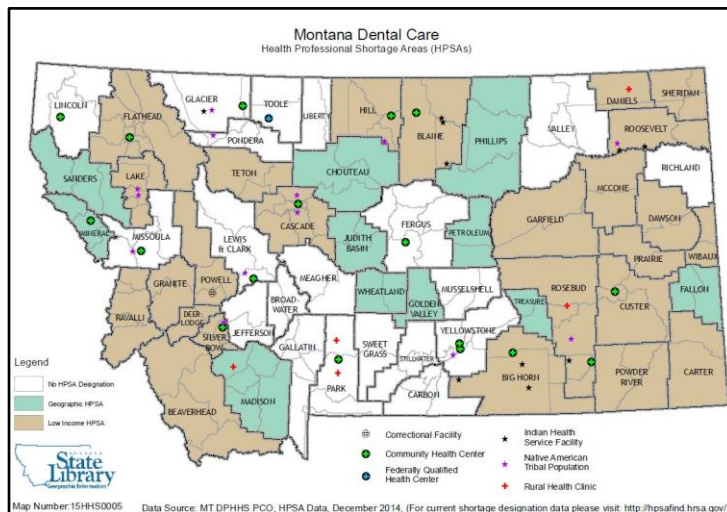
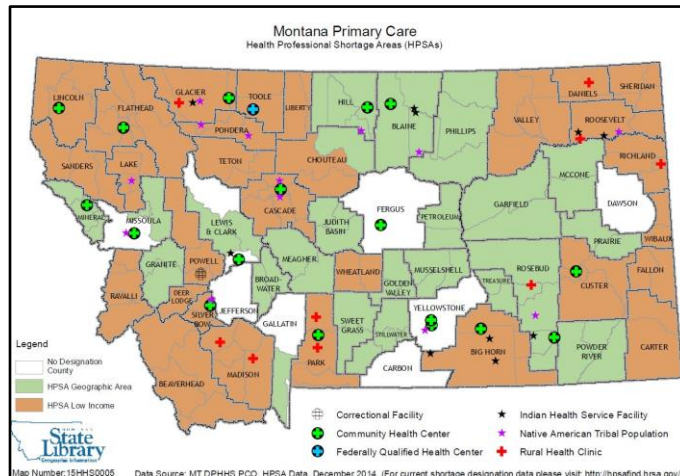
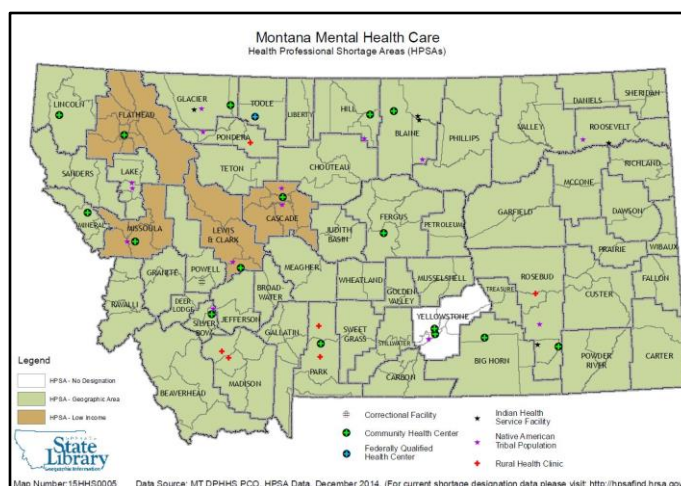


Figure 6: Montana Dental Health HPSA Map¹

Figure 7: Montana Mental Health HPSA Map ¹



HPSA designations were created in the 1970s in response to the national healthcare workforce crisis that emerged in the 1950s and 1960s as rural physicians retired or moved to urban areas, and increasing numbers of physicians chose to specialize.²⁶ HPSAs were originally used by the National Health Service Corps (NHSC) to identify areas in need of primary care providers and now are used by many state and federal programs for eligibility and funding prioritization purposes. HPSAs may be designated as having a shortage in primary medical care, dental or mental health providers. They may be geographic areas, specific population groups, or public facilities.²⁶

In accordance with the federal designation guidelines, the Montana Primary Care Office continues to track and assess primary care needs and the physician workforce across the state. Physician shortages continue to be a problem, particularly in rural and frontier areas and among American Indian, low-income, and veteran populations. All HPSA designations are reviewed at a minimum of every three years. However, if there are changes in the number of providers or healthcare needs, individuals from a community can contact the Primary Care Office to inquire about an additional HPSA review.

HPSA scores range from 1-26 and reflect the degree of provider shortage in a service area relative to both provider capacity and population size and health status.²⁷ Higher HPSA scores reflect a greater degree of need. State and federal National Health Service Corps (NHSC) programs use HPSA scores to prioritize funding. Providers in areas with HPSA scores between 14 and 26 are Tier 1 HPSAs, eligible for the \$50,000 federal NHSC loan repayment program. Providers located in Tier 2 HPSAs are eligible for \$30,000 state NHSC loan repayment. Loan repayment is a significant recruitment incentive. NHSC available funding is based on federal allocations.

Table 4 lists the total number of county designations for primary care, dental, and mental health. This does not include HPSA scores for specific facilities that may be located in counties without HPSA scores. Facility scores are typically, but not always, higher than single county scores. Most facility scores are Tier 1 scores. Providers and facilities in Tier 2 counties are more reliant on state programs for funding. Dental care has a large number of undesignated counties. This may be due to the lack of federally required data from providers for to receive a designation status.

Table 4: Health Professional Shortage Area (HPSA) Scores in Montana				
	Total # County Designations	Counties with Tier 1 Funding (14-26)	Counties with Tier 2 Funding (1-13)	Counties without HPSA
Primary Care	51	Blaine County Carter County Chouteau County Custer County Daniels County Deer Lodge County Fallon County Glacier County Hill County Judith Basin County Lake County Lewis & Clark Cnty Liberty County Lincoln County Meagher County Mineral County Missoula County Musselshell County Phillips County Powell County Ravalli County Sanders County Sheridan County Silver Bow County Sweet Grass County Teton County Wibaux County Wheatland County	Beaverhead County Big Horn County Broadwater County Cascade County Flathead County Gallatin County Garfield County Golden Valley County Granite County Madison County McCone County Park County Petroleum County Pondera County Powder River County Prairie County Richland County Roosevelt County Rosebud County Stillwater County Toole County Treasure County Valley County	Carbon County Jefferson County Yellowstone Cnty Fergus County Dawson County
Dental Care	25	Beaverhead County Big Horn County Blaine County Cascade County Chouteau County Flathead County Hill County Lake County Madison County Pondera County Ravalli County Roosevelt County	Daniels County Golden Valley Cnty Granite County Judith Basin County Petroleum County Phillips County Sanders County Teton County Treasure County Wheatland County	Broadwater Cnty Carbon County Carter County Custer County Dawson County Deer Lodge Cnty Fallon County Fergus County Gallatin County Garfield County Glacier County

		Rosebud County Sheridan County Silver Bow County		Jefferson County Lewis & Clark Liberty County Lincoln County McCone County Meagher County Mineral County Missoula County Musselshell Cnty Park County Powder River Cnty Powell County Prairie County Richland County Stillwater County Sweet Grass County Toole County Valley County Wibaux County Yellowstone Cnty
Mental Health	55	Beaverhead County Big Horn County Blaine County Carbon County Carter County Cascade County Chouteau County Custer County Daniels County Dawson County Deer Lodge County Fallon County Fergus County Flathead County Gallatin County Garfield County Glacier County Hill County Judith Basin County Lake County Lewis & Clark County Liberty County Lincoln County McCone County	Broadwater County Golden Valley Granite County Jefferson County Madison County Meagher County Musselshell County Powder River County Powell County Stillwater County Sweet Grass County	Yellowstone Cnty

		Mineral County Missoula County Park County Petroleum County Phillips County Pondera County Prairie County Ravalli County Richland County Roosevelt County Rosebud County Sanders County Sheridan County Silver Bow County Teton County Toole County Treasure County Valley County Wheatland County Wibaux County		
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UTILIZATION

Bypass behavior. “The mere presence of primary care providers or availability of insurance may not result in increased usage of health care services. Bypass is a behavior in which patients receive health care from providers located farther away than the nearest health care provider to their residence. In urban areas where there are larger clusters of health care providers, bypassing a provider is a matter of choice for residents, with little consequence for the providers being bypassed. However, in rural areas bypassing local providers can also erode the financial viability of local health care services.”²⁷ This results in primary care deserts and leaves individuals and families with limited resources at increased risk of not being able to access primary care.

“Rural primary care selection is multifaceted and influenced by both community attachment and how satisfied patients are with local health care and shopping.”²⁷ A recent study found 39% of Montana respondents bypass local health care. Dissatisfaction with local health care and shopping increased the likelihood of bypass behavior, while the number of friends in a community and commonality with the community reduced the likelihood of bypass behavior.²⁷

Dental Utilization. “According to the 2013-2014 Centers for Medicare and Medicaid (CMS) Early and Periodic Screening Diagnosis and Treatment (EPSDT) data, only 42.9% of Montana’s low-income children 1-20 years of age received preventive dental care. Encouragingly, CMS data also reveals the increase in the prevalence of dental sealants placed, although there are regional differences (Figure 27). Although physician

reimbursement for such services has been in place since 2009, only a handful of children received these services.

Utilization of dental care among adults in Montana has remained lower than U.S rates since 2011, according to Behavioral Risk Factor Surveillance System (BRFSS) data. Utilization of dental care is a Healthy People 2020 Leading Health Indicator through HP2020 Oral Health Objective 7 (OH-7). Of concern, a 2014 report by the U.S. Department of Health and Human Services actually reveals utilization of dental care is one of three HP2020 indicators that are worsening.”²³

III. HEALTH INDICATORS

Methodology. There is no general consensus of which health outcomes or behaviors are most indicative of primary care access. This may be due to variations in local demographics, social and economic factors, environments, and policies that impact population health. In recognition of the need for health indicators to align with primary care services, this needs assessment used clinical service measures reported by Community Health Centers (CHC) to HRSA as a guide to identify health indicators with the potential to be most impacted by access to comprehensive primary care. In recognition of the need to capture local concerns across the entire lifespan, CHC's measures were cross-referenced with Montana's Health Improvement Dashboard, the MT Office of Epidemiology and Scientific Support's (OESS) Data for Community Health Assessments, the 2015 Maternal and Child Health Services Title V Block Grant Needs Assessment, the Montana Chronic Disease Plan, the 2015 Montana's Oral Health Program's Needs Assessment, and the Montana Office of Rural Health's 2014 Community Health Needs Assessment to identify indicators specific to the primary health care needs of Montanans.

The following indicators emerged as the top health concerns with the greatest potential of being impacted by access to primary care in Montana.

- Cardiovascular disease
- Cancer
- Asthma
- Diabetes
- Immunizations
- Prenatal Care
- Mental Health
- Tooth Decay

Cutting across these health concerns, tobacco use and obesity emerged as concerns with the potential to be impacted by access to primary care in Montana.

To explore if the highest primary care workforce shortages align with counties that have the highest rates and percentages of poor health outcomes or lowest rates or percentages of health care utilization, single-county HPSA scores were listed alongside the indicators for each county in excel. The lists were sorted from lowest to highest rates or percentages of health outcome or health care utilization indicators, then the 56 counties were plotted in order against HPSA scores. A trend line was added to the scatter plot.

The section below describes each of the health concern followed by a description of the trend and a description of the distribution of health indicators and workforce by county and region when available.

Cardiovascular Disease. "Cardiovascular disease is the number one killer of adults in Montana. Twelve percent of White residents and 15% of American Indian residents reported a history of heart attack, stroke, or coronary artery disease. Approximately one third reported being diagnosed with high blood pressure or high serum cholesterol.

Nearly two thirds of White respondents and almost three quarters of American Indians were overweight or obese. Smoking is substantially higher among American Indians than among White residents. All are risk factors for cardiovascular disease. These conditions are not mutually exclusive; respondents may have had a history of more than one critical health event or more than one high-risk condition.”²⁸

At the county level HPSA scores do not reflect any strong trends with cardiovascular health indicators (Figures 8-11). There is a slight trend between HPSA scores and the mortality rate of heart disease, as the mortality rate increases the HPSA score also increases indicating a higher level of workforce need (Figure 10). Sheridan County was among the top 10 counties with the highest rates in 3 of the 4 indicators and has a tier 1 HPSA score of 16 (Appendix A). Big Horn, Custer, Deer Lodge, and Roosevelt Counties were also among the top 10 counties with the highest rates in 2 of the 4 indicators, with HPSA scores of 9,18, 17 and 13 (Appendix A). Sheridan, Custer, and Roosevelt County are all in Region 1, eastern Montana (Figure 12). Region 1, Eastern Montana, scored highest in 3 of the 4 indicators and has 6 Tier 1 HPSAs that indicate a high degree of workforce need (Figure 12).

Figure 8: HPSA Scores and Myocardial Infarction Hospitalization Rate per 100,000²⁹⁻³⁰

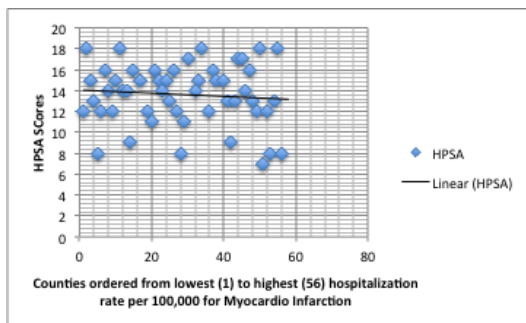


Figure 9: HPSA Scores and Stroke Hospitalization Rate per 100,000²⁹⁻³⁰

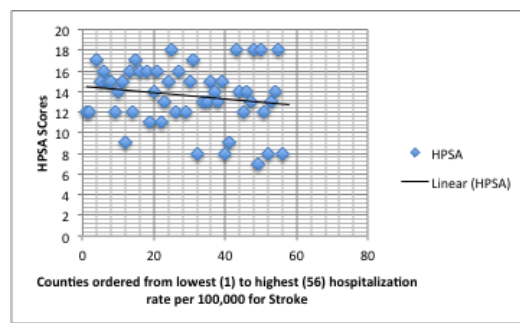


Figure 10: HPSA Scores and Heart Disease Mortality Rate²⁹⁻³⁰

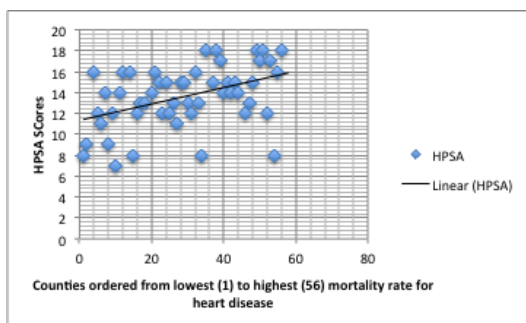


Figure 11: HPSA Scores and Cerebrovascular Mortality Rate²⁹⁻³⁰

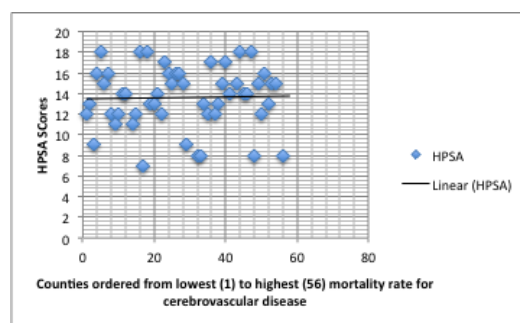
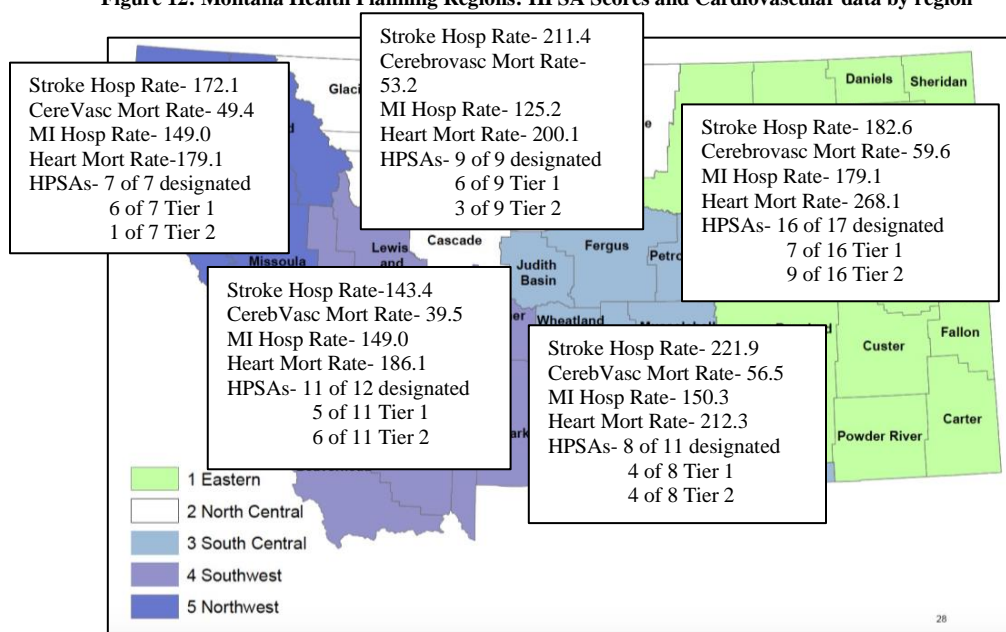


Figure 12: Montana Health Planning Regions: HPSA Scores and Cardiovascular data by region^{29,30}



Cancer. “Cancer is the second leading cause of death in Montana. An average of 5,000 new cases are diagnosed each year. The most common types in Montana and the nation as a whole are prostate (17%), lung (14%), female breast (14%), and colorectal cancer (10%). Jointly, these sites account for more than half of all newly diagnosed cancers. No other kind of cancer accounts for even 5% of cases, and many account for less than 1%.

American Indian residents of Montana have substantially higher incidence rates of lung cancer than White residents, probably due to a higher prevalence of smoking among American Indian residents. They also have higher incidence rates of colorectal, kidney, and liver cancers. The higher incidence rate of colorectal cancer may be due in part to notably lower participation in screening. The higher incidence rate of liver cancer may be due to higher prevalence of cirrhosis of the liver and hepatitis.

The single most effective way to reduce cancer incidence is to avoid tobacco use, which is estimated to cause approximately 90% of lung cancer and to increase the risk for one third of other cancers throughout the body.

The most important way to reduce cancer mortality is to participate in regular screening for colorectal, breast, and cervical cancer. Colorectal and cervical cancer screening can prevent cancer by finding precancerous lesions. The Pap test has reduced cervical cancer from the most common cause of cancer death among U.S. women in 1900, to one of the least common today. Colorectal cancer screening has the potential to have a similar impact if people are screened according to guidelines, but only slightly more than half of Montana adults report being screened by either fecal occult blood tests (FOBT) or endoscopy.”²⁸

There is a slight trend between HPSA scores and mortality rates from cancer, as the mortality rate increases the HPSA scores also slight increase overall (Figure 13). Region

1 has the highest mortality rate from cancer, but a lower incidence compared to Region 3, this could be due to lower percentages of screening (Appendix A). Seven of the top 10 counties with the highest mortality rates are in Region 1 (Wibaux, Prairie, Daniels, Fallon, Phillips, Custer). Five of the 7 have Tier 1 HPSA scores (Appendix A).

Figure 13: HPSA Scores and Cancer Mortality Rate²⁹⁻³⁰

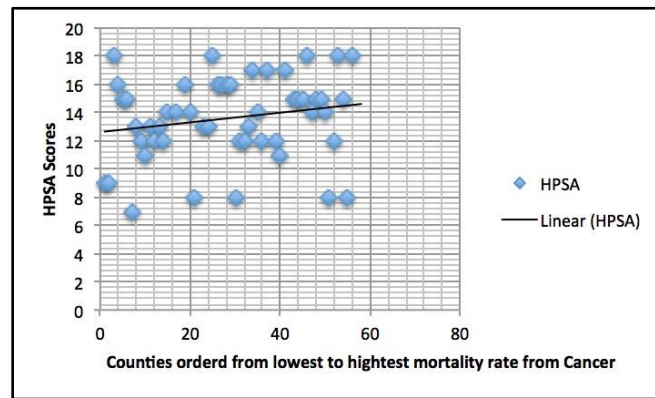
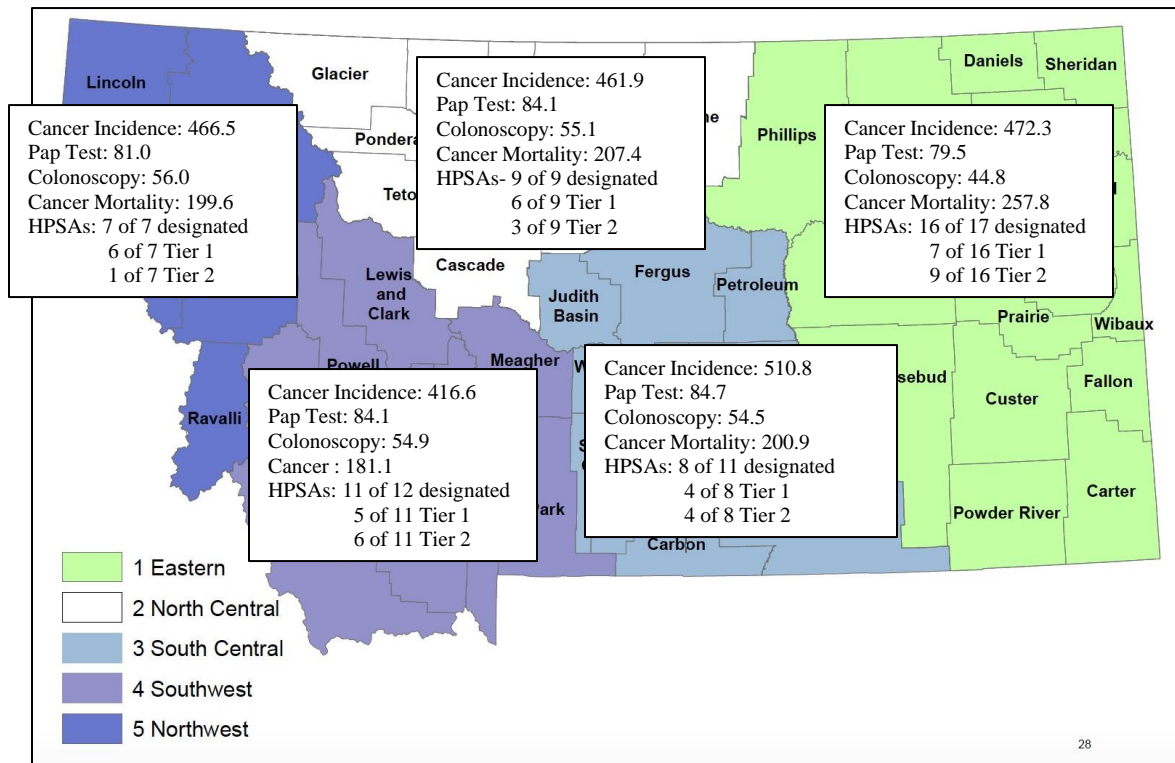


Figure 14: Montana Health Planning Regions: HPSA Scores and Cancer data by region²⁹⁻³⁰



Asthma. “In 2010, an estimated 9% of adults and 7% of children in Montana had been diagnosed with asthma. Nearly half of Montana adults and more than one third of children with active asthma reported that their disease was not well controlled. People with uncontrolled asthma had more frequent visits to Urgent Care centers or Emergency

Departments than did people with well-controlled asthma and reported more frequent encounters with health care providers.

Despite being an at-risk population, 26% of adults with current asthma in Montana reported smoking cigarettes, compared to 17% of Montana adults in general. In addition, 12% of children (ages 0-17 years) with current asthma were exposed to environmental tobacco smoke at home”²⁸

There are slight trends between HPSA scores and asthma related health indicators, as rates increase the HPSA scores also increase (Figure 15, 16). However, data were only available for 32 of 56 counties for the rate of hospitalization for asthma (Appendix A). Region 1 has the highest mortality rate for chronic lower respiratory disease (Figure 17). Five of the top 10 counties with the highest mortality rates for chronic lower respiratory disease are from Region 1 (*Wibaux, Treasure, Sheridan, Prairie, Powder River*). Region 2 has the highest hospitalization rate for asthma (Figure 17).

Figure 15: HPSA Scores and Asthma Hospitalization Rate per 100,000²⁹⁻³⁰

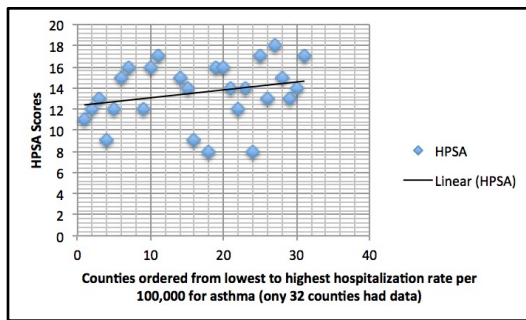


Figure 16: HPSA Scores and Asthma Mortality Rate per 100,000²⁹⁻³⁰

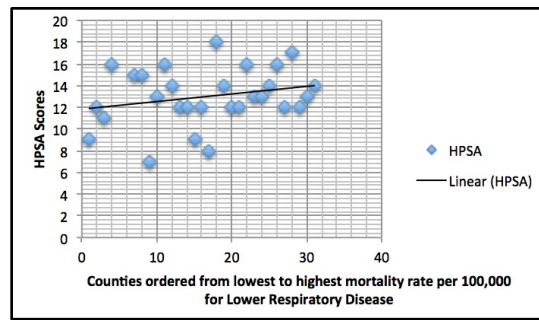
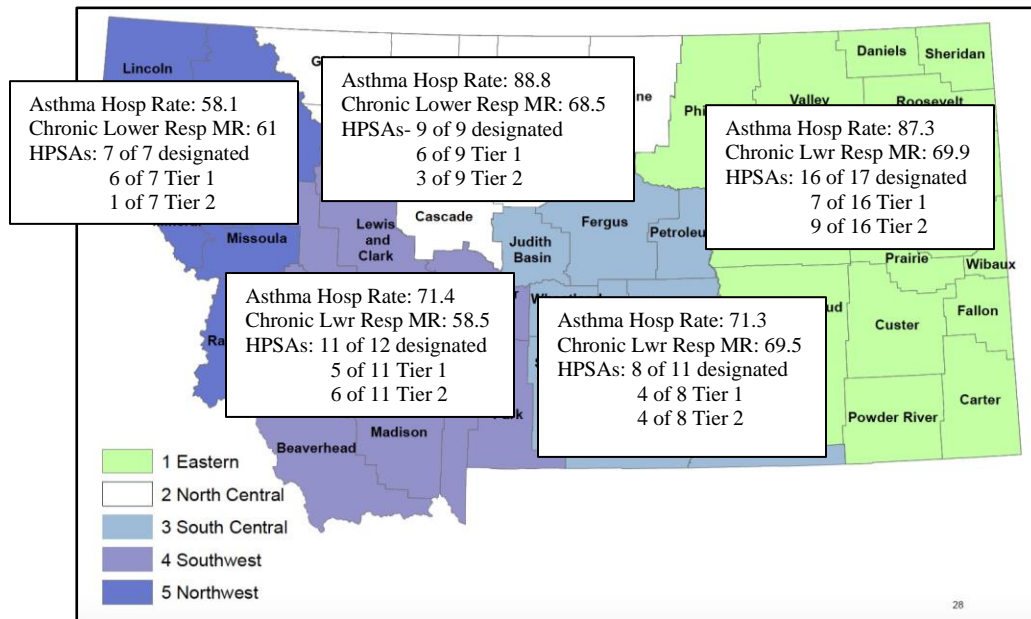


Figure 17: Montana Health Planning Regions: HPSA Scores and Asthma data by region²⁹⁻³⁰



Diabetes. “In 2011, 8% of adult respondents to the BRFSS said they had been diagnosed with diabetes. Complications of poorly controlled diabetes contributed to 102 potentially avoidable hospitalizations per 100,000 population among adults and 52/100,000 among children ages 6 to 17 years for the three-year interval 2009 through 2011. These hospitalizations cost \$16.5 million in 2011 alone.”²⁸

At the county level HPSA scores do not reflect strong trends with diabetes health indicators (Figures 18,19). There is a slight trend between HPSA scores and mortality rates from diabetes (Figure 18). As the mortality rate increases the HPSA scores also slightly increase overall (Figure 18). Region 1 has the highest prevalence, hospitalization and mortality rates from diabetes (Figure 20).

Figure 18: HPSA Scores and Diabetes mortality rate²⁹⁻³⁰

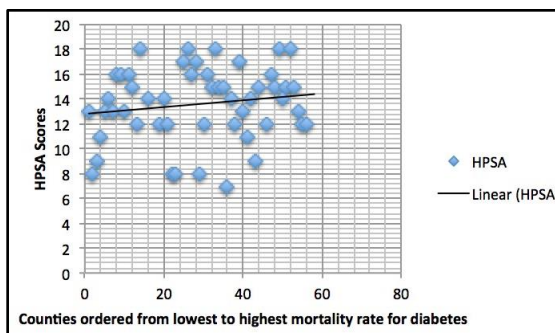


Figure 19: HPSA Scores and Diabetes hospitalization rate²⁹⁻³⁰

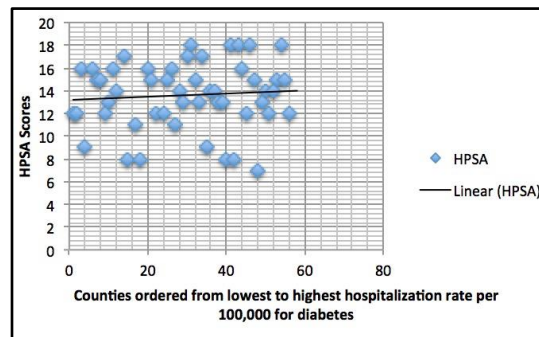
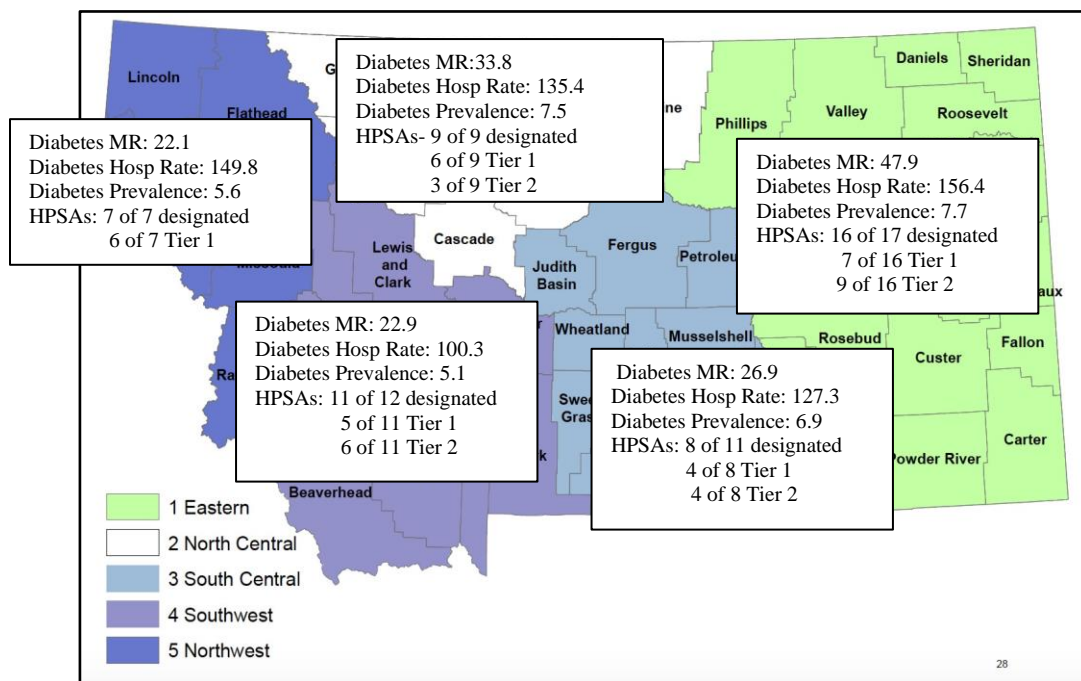


Figure 20: Montana Health Planning Regions: HPSA Scores and Diabetes data by region²⁹⁻³⁰



Immunizations. “Healthy People 2020 targets for population vaccination rates at age 36 months are 90% for most vaccines. The goal for being up to date on all vaccines is 80%.

Montana law does not require all vaccines recommended by the HP 2020 or the Advisory Committee on Immunization Practices.

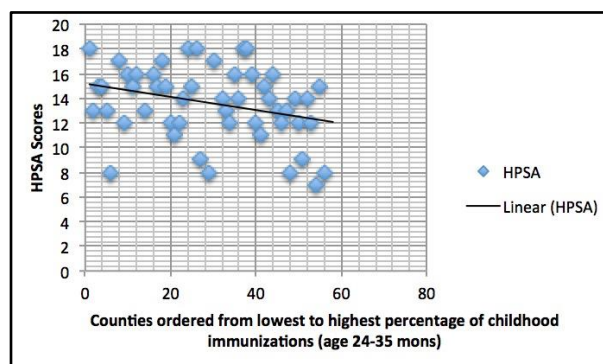
HP 2020 recommends a population-based, electronic database of childhood vaccination covering 95% of all children under six years of age. Montana has recently gone on-line with an immunization registry that meets the 12 minimum functional standards of the National Vaccine Advisory Council. HP 2020 also recommends that states collect immunization status of all children at enrollment in kindergarten. Montana schools must report the immunization status of children at enrollment to ensure that they are up to date according to the Administrative Rules of Montana for school entry (ARM 37.114.705). Montana has experienced recent outbreaks of pertussis and varicella. There were 586 cases of pertussis in 2005 and 545 in 2012. There were 336 cases of varicella in 2008 and 424 in 2007. Upsurges in these and other vaccine-preventable diseases may be expected to increase in the future unless vaccination rates improve. Increases in pertussis cases in adolescents may also be due to the waning of immunity, underscoring the importance of a booster.

Adolescent vaccination coverage for tetanus and diphtheria (Td) or for tetanus, diphtheria, and acellular pertussis (Tdap) are high in Montana, exceeding the HP 2020 target.²⁰ Use of the Tdap is preferred to maintain immunity to pertussis among teens. Coverage for the newer vaccines for meningitis and HPV are lower among Montana teens but still exceed the HP 2020 targets.

The HP 2020 targets for adult vaccination are 80% for annual seasonal influenza for all adults and 90% for pneumococcal pneumonia for adults age 65 years and older. In 2011, fewer than one third of Montana adults aged 18 and 64 reported having a seasonal flu shot in the past year and only about half of adults age 65 years and older had been vaccinated.²¹ However, more than two thirds of Montanans over age 65 years reported receiving the pneumococcal vaccine.”²⁸

There is a moderate trend between HPSA scores and the percentage of childhood immunizations at 24-36 months (Figure 21). As the percentage of children immunized increases the HPSA scores decrease (Figure 21). There are no regional percentages of childhood immunizations at 24-36 months provided on the region community health assessment.

Figure 21: HPSA Scores and Percentage of Immunization at 24-35 months²⁹⁻³⁰



Prenatal Care. “In 2011, 82% of White babies and 78% of American Indian babies in Montana were born to women aged 20 to 34 years. However, 2% of White babies and 5% of American Indian babies were born to girls younger than 18 years old, and an additional 11% of White babies and 6% of American Indian babies were born to women age 35 year or older. Mothers in the youngest and oldest age groups, and their babies, are at higher than average risk of poor pregnancy outcomes.

Three quarters of White mothers but only half of American Indian mothers entered prenatal care in the first trimester. Nearly one third of American Indian mothers entered prenatal care in the second trimester and 13% delayed until the third trimester. Very few women did not seek prenatal care at all.

The most common adverse maternal condition of pregnancy among Montana women is smoking (15% among White women and 29% among American Indian women), much higher than the Healthy People 2020 target of 1%. Few women reported drinking during pregnancy. In addition, about one in ten pregnancies was complicated by either preexisting diabetes, gestational diabetes, preexisting hypertension or gestational hypertension. Diabetes and hypertension are not mutually exclusive, and a given pregnancy may be complicated by both conditions. All are risk factors for adverse outcomes, such as prematurity, low birth weight, and neonatal death.

Montana approached or exceeded HP 2020 targets for premature birth (< 37 weeks gestation) and low birth weight (< 2500 grams or 5.5 pounds). Nevertheless, about 5 babies per 1,000 died before their first birthday in 2011. Approximately two thirds of infant deaths were associated with complications of labor and delivery (36%) or with congenital anomalies (30%).”²⁸

There is no trend between HPSA scores and the percentage of women receiving prenatal care in the 1st trimester, or the percentage of women that smoke during pregnancy (Figure 22, 24). There is a slight trend between the HPSA scores and the percentage of low infant birth weight (Figure 23). As the percentage of low infant birth weight increases, HPSA scores also slightly increase (Figure 23). Region 1 has the lowest percentage of women receiving care during the first trimester, the highest percentage of women smoking during pregnancy, and the highest percentage of low infant birth weights (Figure 24).

Figure 22: HPSA Scores and Percentage of Prenatal Care in the 1st Trimester²⁹⁻³⁰

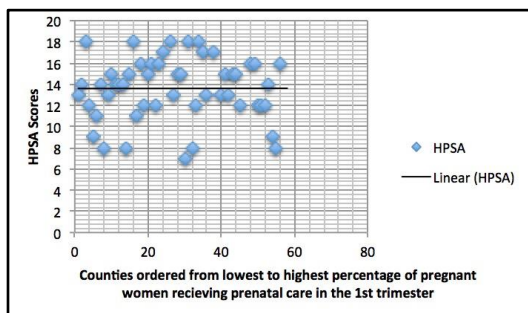


Figure 23: HPSA Scores and Percent of Low Infant Birth Weight (<2500 grms)²⁹⁻³⁰

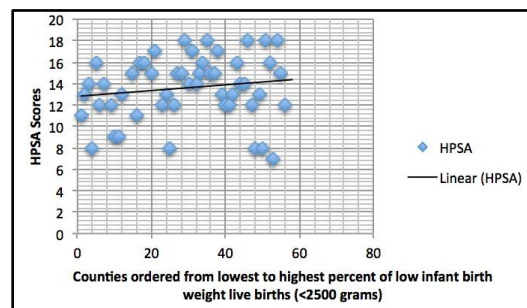
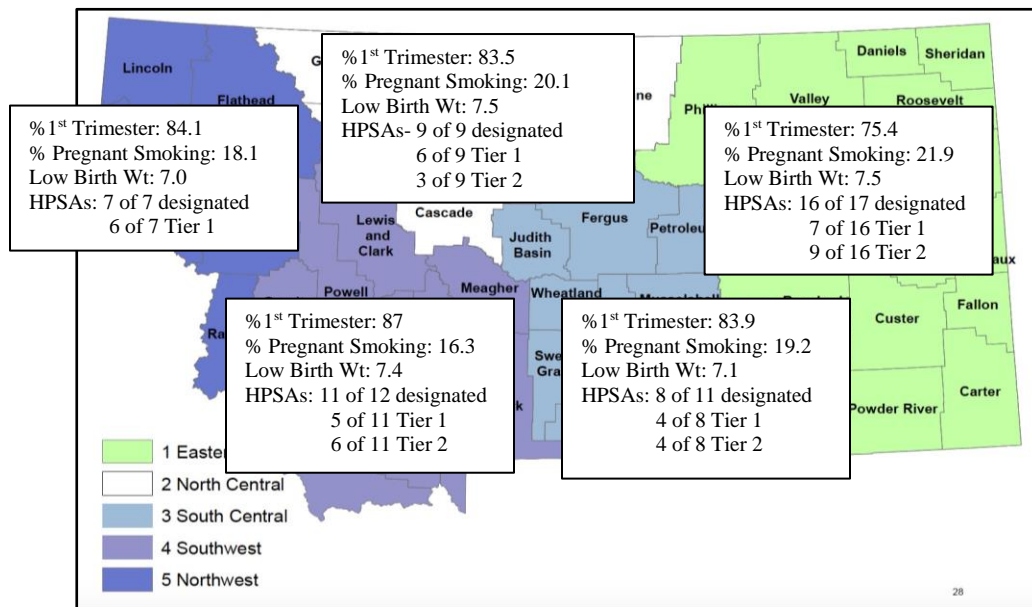


Figure 24: Montana Health Planning Regions: HPSA Scores and Prenatal data by region²⁹⁻³⁰



Mental Health. “One fifth of respondents to the 2011 Montana Behavioral Risk Factor Surveillance System (BRFSS) survey reported experiencing 1 to 13 days of poor mental or emotional health in the month prior to the survey; 11% reported experiencing 14 or more days. The remaining two thirds did not experience poor mental or emotional health.

Respondents who reported experiencing 14 or more poor mental health days per month also reported significantly higher rates of smoking and failure to engage in any leisure time exercise. Both are risk factors for most chronic diseases. Days of poor mental health were not associated with significant differences in other risk factors, such as binge drinking, being overweight or obese, or failing to participate in breast or colorectal cancer screening.

One quarter of high school students reported depression that lasted at least two weeks and caused them to give up some of their usual activities. Fifteen percent reported considering suicide in the past year, 12% reported planning a suicide attempt, and 7% reported actually attempting suicide. Only 2% reported that they made a suicide attempt that required medical attention.”²⁸

There is significant need for mental health workforce in almost every county of Montana, with 41 Tier 1 counties with HPSA scores hovering between 16 and 22 (Figure 25). Fifty-five of 56 counties have single county mental health HPSA scores.

Figure 25: HPSA Scores and Suicide Rate²⁹⁻³⁰

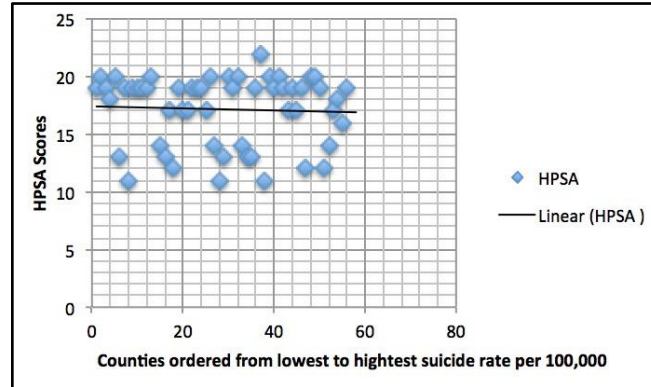
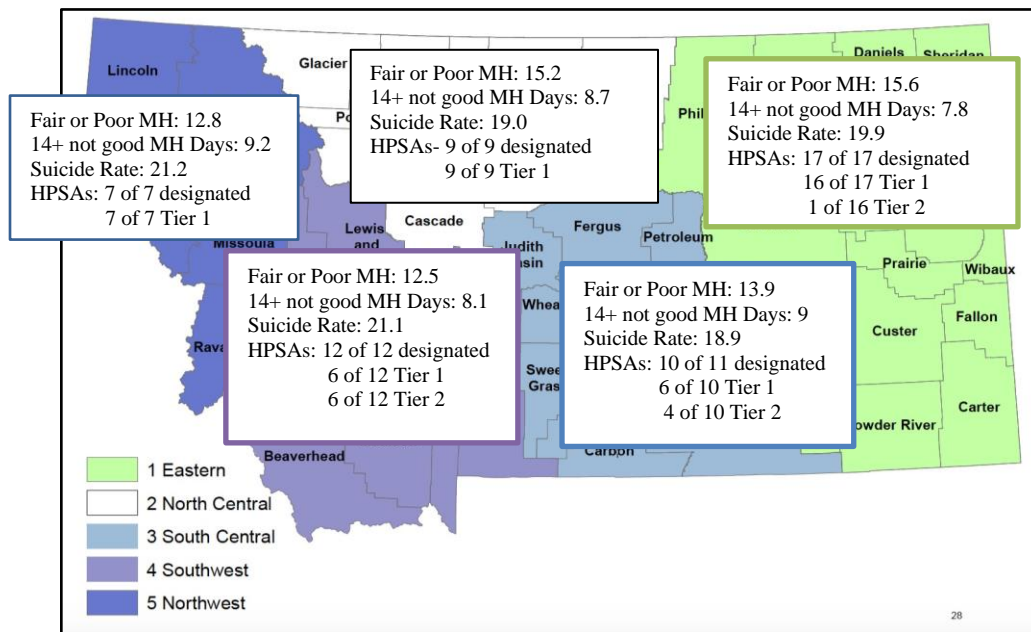


Figure 26: Montana Health Planning Regions: HPSA Scores and Mental Health data by region²⁹⁻³⁰



Oral Health. “According to Montana’s 2013-2014 Basic Screening Survey (BSS) data, the prevalence of dental decay among Montana 3rd grade children was unchanged from 2005-2006, and remains higher than U.S. rates. In 2014 surveillance, over half (56%) of children in the lowest income schools ($\geq 75\%$ free and reduced lunch participation) had untreated dental decay and over 92% of American Indian children had experienced tooth decay. Rates of untreated decay have improved slightly, and are similar to the national average.

Over half (55%) of 3rd grade children screened in 2014 had a dental sealant on at least one molar, up from 46% in 2006. However, regional differences are apparent in the 2013-2014 BSS data for prevalence of both sealants and dental decay, with need being highest in the least populous areas (Figure 27).²³

Edentulism. In the 2014 Montana BRFSS survey, 1 out of 6 (16.7%) Montanans over age 65 years reported they lost all of their natural teeth compared to 14.9% of U.S. citizens in the same age range. A particularly high-risk group is individuals with diabetes, since periodontal disease can increase the risk of edentulism. One in 5 (22.3%) diabetic Montanans over the age of 55 years reported they lost all of their natural teeth. According to 2013 BRFSS data, only 56.3% of diabetics reported they received dental care in the last year. The 2013 data reveal a strong association between tooth loss and a low level of education, disability status, and American Indian ethnicity. In addition to costs of care and lack of coverage, the BRFSS data also highlights perception of need, lack of priority for dental care, and fears as barriers to dental care among adults.”²³

There is only regional level data available for dental care (Figure 27). The distribution of dental HPSAs are provided in Figure 28.

Figure 27: Prevalence of Decay and Dental Sealants among 3rd Grade Children by Region²³

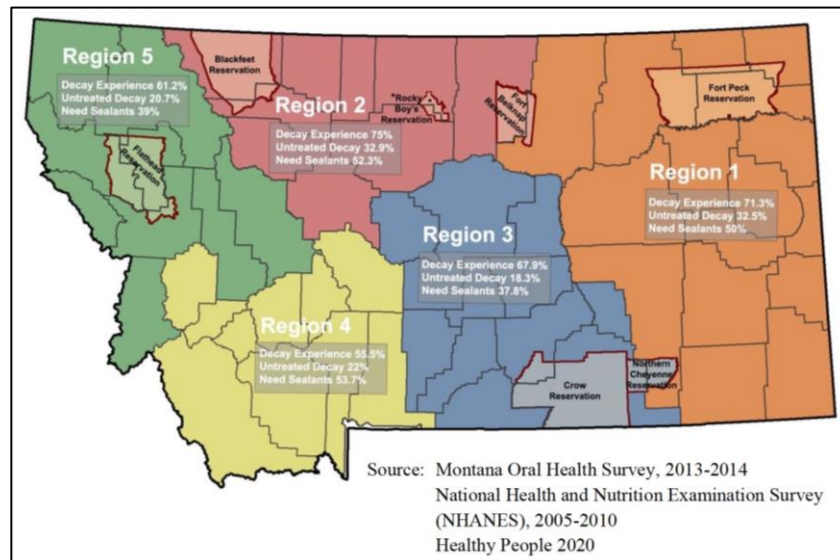
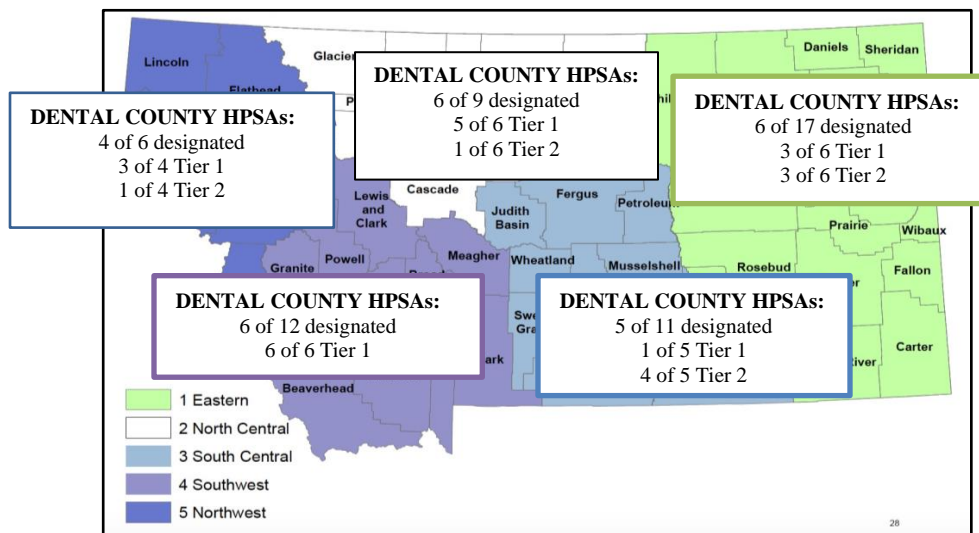


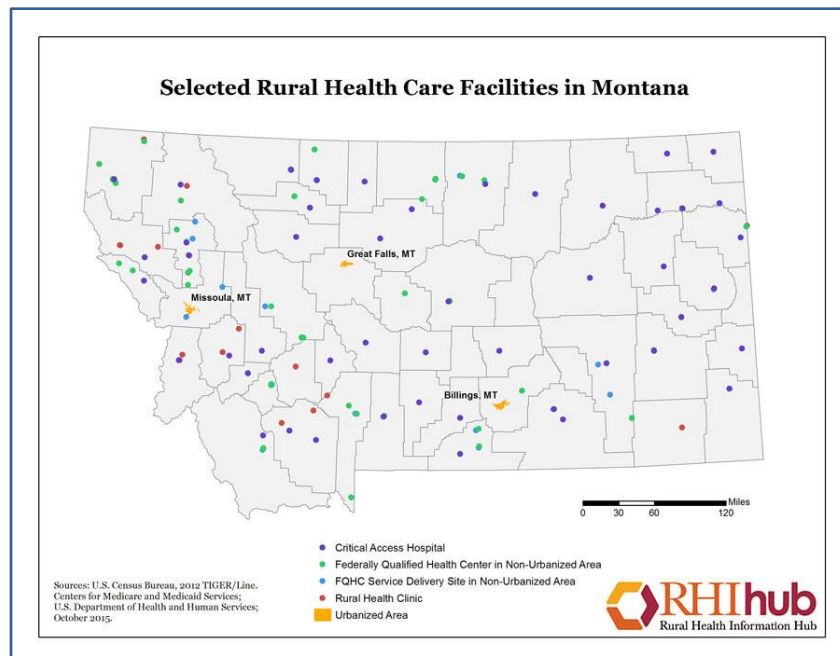
Figure 28: County Dental HPSA Designations³⁰



III. PRIMARY CARE RESOURCES and PARTNERS

HEALTH CENTERS. The National Association of Community Health Centers defines “Health Centers” as Community, Migrant, Homeless, and Public Housing Health Centers that are non-profit, community-directed providers that remove common barriers to care by serving communities who otherwise confront financial, geographic, language, cultural and other barriers. Also known as Federally-Qualified Health Centers (FQHCs), they provide access to anyone regardless of ability to pay, tailor their services to fit the needs of the communities they serve, and are located in high-need areas identified as having elevated poverty, high infant mortality rates, and where few physicians practice. In 2013, Montana’s health centers provided care at 90 delivery sites in 46 different communities to more than 97,000 patients; including 5,992 homeless patients.³¹ Montana’s health centers log over 350,000 patient visits annually, provide 721 full-time equivalent local jobs, and bring in more than \$38 million in outside grants and non-patient revenue.”

Figure 29: Safety Net Health Centers in Montana ¹⁴



RURAL HEALTH CENTERS. “A rural health center is a federally designated site intended to improve the delivery of quality, cost effective health care in rural underserved communities. RHCs can be public, private or non-profit. To qualify as a RHC, a clinic must be located in:

- A non-urbanized area, as defined by the United States (U.S.) Census Bureau, and
- An area currently designated within the previous 4 years by the Health Resources and Services Administration as one of the following types of Federally designated or certified shortage areas:
 - Primary Care Geographic Health Professional Shortage Area (HPSA) under Section 332(a)(1)(A) of the Public Health Service (PHS) Act;
 - Primary Care Population-Group HPSA under Section 332(a)(1)(B) of the PHS Act;

- Medically Underserved Area under Section 330(b)(3) of the PHS Act; or
- Governor-designated and Secretary- certified shortage area under Section 6213(c) of the Omnibus Budget Reconciliation Act of 1989.

The main advantage of RHC status is enhanced reimbursement rates for providing Medicaid and Medicare services. RHCs must be located in rural, underserved areas and must use one or more physician assistants or nurse practitioners. There are 54 RHCs in Montana (Figure 29).³²

CRITICAL ACCESS HOSPITALS. “Critical Access Hospitals (CAH) grew out of a demonstration project that began in the State of Montana. In 1987 the Montana legislature enacted legislation establishing a limited service rural hospital named the Medical Assistance Facility (MAF). After the close of the 1987 legislative session, the Montana Hospital Research and Education Foundation (MHREF) proposed a demonstration of the efficacy of the MAF model to the federal Health Care Financing Administration (HCFA). Finding the model promising, HCFA funded a multi-year demonstration project. In 1989 MHREF asked HCFA to: (1) accept Montana’s MAF licensure rules in lieu of the Medicare Hospital Conditions of Participation, waiving those conditions not applicable to MAF operations; (2) reimburse Medicare services on the basis of reasonable cost; and (3) allow the state’s PRO (Professional Standards Review Organization) to provide utilization review services for all patients, not just Medicare beneficiaries. The waiver was issued in December 1990. Days later the first facility, McCone County MAF in Circle, Montana, was licensed and certified by the Montana Department of Health and Human Services. The Montana MAF would later become the model for the Critical Access Hospital.”³³ As of March 18, 2016, there are 1,331 certified CAHs located throughout the United States, 48 of which are in Montana (Figure 29).¹⁴

Converting a struggling rural hospital to a CAH allows the community to stabilize and maintain local healthcare access. CAHs are small rural facilities with a low average daily census and length of stays that offer a limited services. CAH’s have more flexible staffing requirements. For example, because the inpatient unit does not require staffing on zero census days, the baseline fixed cost of this part of the facility becomes a variable cost.³³ CAHs also more extensively recruit and retain mid-level providers to provide a broad scope of practice.³³

CAHs are often co-located with nursing homes, rural health clinics, dental clinics, mental health clinics, or with public health programs such as WIC (Women, Infant and Children’s) programs. The co-location of services allows for cost savings by enabling the facility to shift staff to provide other services on zero census days, and buy equipment and supplies in bulk. Co-location of services is also advantageous for patients. Not only is it convenient, but it also allows nursing home patients to remain in place rather than needing to be transferred for care.³³

CAHs receive Medicare and Medicaid payments utilizing cost-based reimbursement vs. predetermined diagnosis-related reimbursement. This allows CAHs to recover all the costs of caring for a patient. For example, if a diagnosis-related reimbursement will only allow for a 2-day stay but a patient actually requires a 3-day stay, CAHs are able to be

reimbursed for all 3 days. CAHs are also not subject to payment caps related to readmission. This is a significant help to CAHs where caring for even one seriously injured or sick individual can have a significant impact.

Medicare patients comprise 60 to 70 percent of CAH in-patient stays nationwide.³³ Medicaid patients represent 10 percent or less.³³ In Montana, 49 percent of CAH total facility revenue is derived from outpatient revenue.³³ Additional funding for CAHs include health center grants, and a 10% physician bonus for Medicare and Medicaid payments made to providers practicing in CAHs located in geographic HPSAs.³⁴

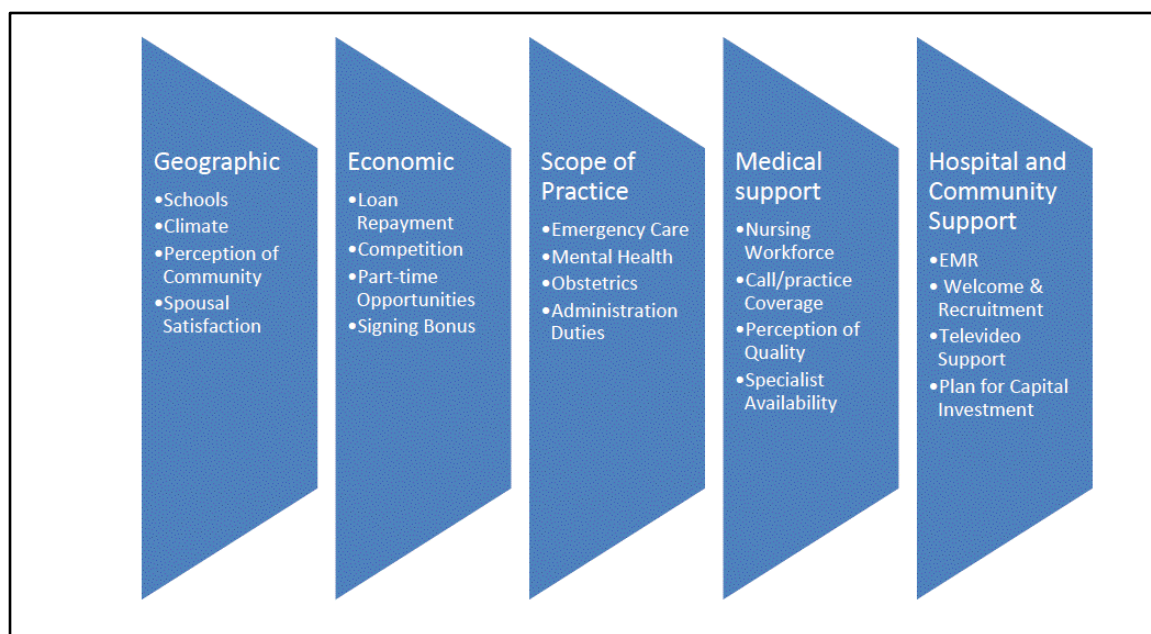
Key criteria for designation of a CAH facility include:

- The CAH must be located more than 35 road miles, or, in the case of a facility located in mountainous terrain where only secondary roads exist, more than 15 road miles from a hospital or another Critical Access Hospital; or the state must certify the potential CAH as a necessary provider of health-care services to residents in the area. (The State of Montana provides blanket certification to all hospitals located in a frontier county.)
- The CAH must provide 24-hour emergency care in the facility's service area.
- The CAH must not have more than 15 acute care inpatient beds. In the case of a facility with swing beds (beds that can be utilized for inpatient or Medicare services), the CAH may have 25 acute care inpatient beds. However, only 15 of the 25 beds may be used for acute care at any one time.
- The CAH cannot provide inpatient care for a period exceeding 96 hours, as determined on an average, annual basis for each patient.
- The CAH must operate a quality assessment and performance improvement program and follow appropriate procedures for review of utilization of services. Each CAH must have an agreement for credentialing and quality assurance activities with an entity allowed by law.³³

COMMUNITY APGAR PROGRAM. The Area Health Education Center assists in coordinating the Community APGAR program to improve recruitment and retention outcomes for family medicine physicians in CAHs. Currently, 16 of Montana's 48 Critical Access Hospitals (CAHs) participate in the two-year APGAR program.³⁵

Named for its similarities with the newborn performance indicator, the Community APGAR Program assesses fifty community recruitment and retention factors, and identifies which factors are most important to improving performance outcomes.³⁵⁻⁶ To accomplish this task, the APGAR questionnaire asks fifty questions related to five categories (Figure 30), which include geographic, economic, scope of practice, medical support, and hospital and community support.³⁵ Since factors are dynamic and constantly evolving, many variables may exist which may not be represented in the questionnaire. To increase validity, three open-ended questions are given to participants to accommodate factors, which may have not been previously identified.³⁵

Figure 30: Community APGAR Categories ³⁶



Scores are assigned to each of the questions allowing CAHs to gauge strengths and weaknesses and identify determinant factors influencing physician recruitment and retention decisions. In 2014 the top advantages which Montana communities benefitted from in recruiting and retaining family medicine physicians to the state were: broad scope of practice, community volunteer opportunities, transfer arrangements, loan repayment, community need/physician support, employment status, religious/cultural opportunities, recreational opportunities, ancillary staff workforce and call/practice coverage³⁵

The top challenges for CAH to recruit and retain physicians in Montana were: spousal satisfaction, mental health, allied mental health workforce, shopping/other services, climate, physician workforce stability, electronic medical records, televideo support, administration and payor mix.³⁵ It is worth highlighting that two of the top ten disadvantages Montana faces in recruiting and retaining physicians at CAHs relates to the shortage of mental health providers. This aligns with the high mental health HPSA scores across the state (Figure 28).

3RNET. 3RNet works to improve rural and underserved communities' access to quality health care through online recruitment of physicians and other health care professionals (including public health administrators), development of community based recruitment and retention activities, and national advocacy relative to rural and underserved health care workforce issues. 3RNet is a national non-profit network of organizations such as: State Offices of Rural Health, Primary Care Offices, Area Health Education Centers, University programs, State-based non-profit organizations, and Primary Care Associations. As of March 2016, there are approximately 195 health care positions in Montana posted on 3Rnet's job recruitment website, 100 of which are for physicians.³⁷

NATIONAL HEALTH SERVICE CORPS. The National Health Service Corps (NHSC) is a federal program under the U.S. Department of Health and Human Services administered by HRSA and the Bureau of Health Workforce (BHW) that provides loan repayment and scholarship incentives in exchange for service in underserved areas.³⁸



To ensure that the NHSC has a positive impact on improved health care access and care for at-risk and underserved populations in communities, the program reviews and approves sites to employ eligible NHSC providers. These sites are integral to the mission of the National Health Service Corps in ensuring health care access for all individuals and care for underserved populations. To be a NHSC site, a facility must:

- Be a primary care outpatient facility or Critical Access Hospital which provides medical, dental, or behavioral health services within a designated HPSA;
- Maintain a discounted/sliding fee schedule based upon current federal poverty guidelines which has been implemented for at least twelve months;
- Utilize a credentialing process which includes a reference review, licensure verification, and National Practitioner Data Bank (NPDB) query;
- Provide services to all individuals regardless of ability to pay or enrollment in Medicare, Medicaid or a state Children's Health Insurance Plan;
- Prominently advertise the availability of a sliding fee schedule and access to primary care services regardless of ability to pay (National Health Service Corps);
- Demonstrate the facility is part of a system of care.³⁸

In 2015 52 new sites were approved, 49 of which are mental health service sites. Montana has a total of 122 NHSC-certified sites providing comprehensive primary care medical, dental, and behavioral health services in frontier, rural, and urban areas.

In exchange for a two-year commitment to serve a certified NHSC site in a federally designated Health Professional Shortage Area, the National Health Service Corps offers both loan repayment and scholarship services to:

- Primary Care Physicians (MD or DO)
- Dentists (DDS or DMD)
- Primary Care Certified Nurse Practitioners (NP)
- Certified Nurse-Midwives (CNM)
- Primary Care Physician Assistants (PA)
- Registered Dental Hygienists (RDH)
- Health Service Psychologists (HSP)
- Licensed Clinical Social Workers (LCSW)
- Psychiatric Nurse Specialists (PNS)
- Marriage and Family Therapists (MFT)
- Licensed Professional Counselors (LPC) (Bureau of Clinician and Recruitment and Service, 2014)³⁸

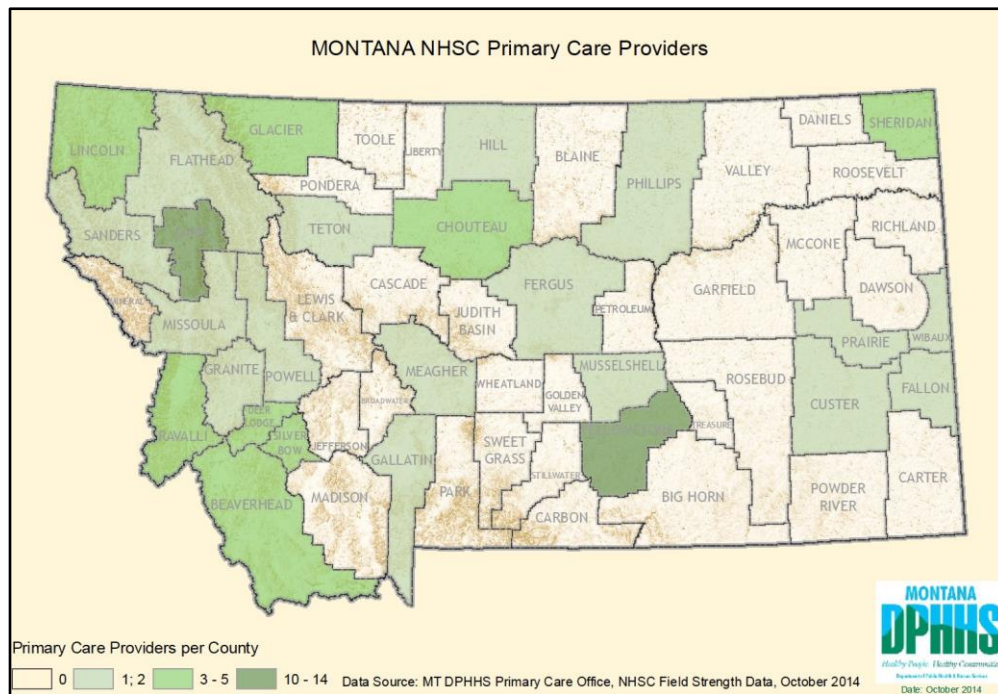
Montana currently has 189 NHSC providers. Of these participants, 181 providers currently serve in the loan repayment program and 8 participate in the scholarship

program. There are currently 28 physicians, 25 nurse practitioners, 37 physician assistants, 1 midwife, 16 dentists, 6 dental hygienists, 75 mental and behavioral health providers, and 1 pharmacist participating as NHSC providers. There are currently 13 NHSC primary care providers, 3 dentists, and 8 mental health professionals providing care on reservations.

Figures 31-33 are maps of the geographic distribution of NHSC providers. There are more NHSC providers in western than eastern Montana. The beautiful landscape and shorter distances between rural and urban centers of western Montana may contribute to this unequal distribution. According to a January 2015 Montana NHSC provider survey, the top two reasons NHSC members chose to serve in Montana are the beautiful scenery and the broad scope of practice. Other benefits of living and working in Montana identified by NHSC members included: support from the employer, the Montana pace of life, no sales tax, and camaraderie.

It is worth noting that NHSC providers are not counted in the population to provider ratios used for HPSA scoring. Therefore, the HPSA scores are not an accurate reflection of physician shortages when accounting for NHSC providers. Figures 31-33 highlight a more pronounced shortage in eastern Montana when accounting for NHSC providers.

Figure 31: NHSC Primary Care Providers by County



MONTANA NHSC Dental Care Providers

Dental Care Providers per County

Count	Counties
0	Blaine, Daniels, Glacier, Hill, Judith Basin, Musselshell, Petroleum, Phillips, Pondera, Richland, Roosevelt, Sanders, Sheridan, Teton, Toole, Valley, Wheatland
1	Beaverhead, Carbon, Cascade, Chouteau, Fergus, Garfield, McCone, Prairie, Powell, Sweet Grass, Treasure, Wibaux
2	Lincoln, Flathead, Lewis & Clark, Meagher, Rosebud, Stillwater
3	Deer Lodge, Daniels

Data Source: MT DPHHS Primary Care Office, NHSC Field Strength Data, October 2014

Montana
DPHHS
Healthy People • Healthy Communities
Prevention • Education • Policy • Research
Date: October 2014

[illegible]

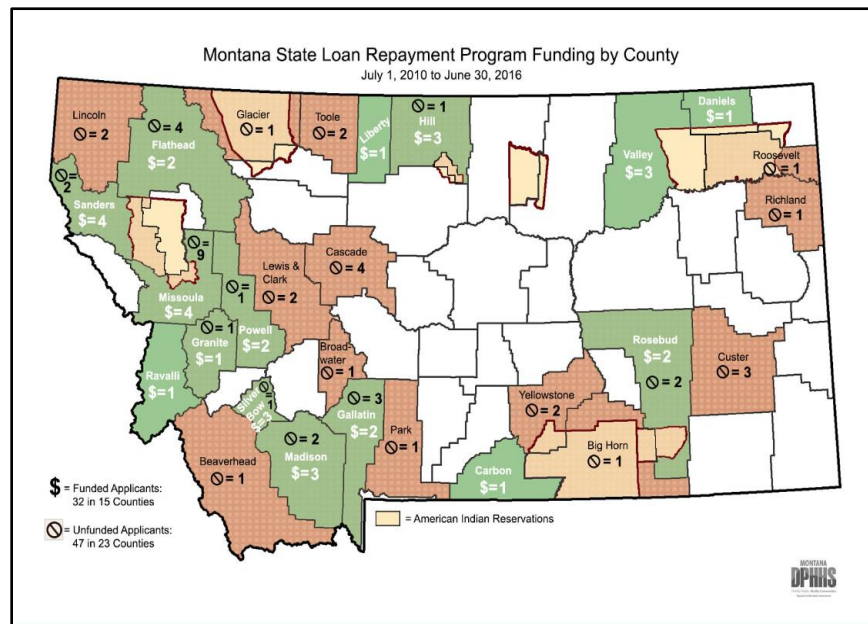
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cost-sharing grants to assist them in operating their own state educational loan repayment programs for primary care providers working in Health Professional Shortage Areas (HPSAs) within their state.³⁹ SLRP provides a loan repayment option for providers unable to receive federal NHSC funding and who have qualified educational loans. The grant provides loan repayment between \$15,000 and \$25,000 per year for two years for eligible providers.¹ State loan repayment programs vary from state to state, and states have flexibility in determining eligible disciplines, how to prioritize practice sites, and the amount of loan repayment awards offered.³⁹

States must agree to make available a dollar-for-dollar match of non-Federal contributions, either directly or through donations from public or private entities, toward loan repayment of SLRP recipients.³⁹ The 2009 through 2015 State legislatures authorized \$75,000 in general funds to match the \$75,000 in federal funds, for a total of \$150,000. As a result of the dollar for dollar match, \$75,000 was dispersed during each cycle for the period of SFY 2010 through 2016. The Federal SLRP funds increased to \$150,000 for SFY 15 and 16, although the state match amount remained at \$75,000. Two first year applicants and eight second year SLRP recipients were awarded funds in SFY 2015 and 2016.

In the past 6 years, the MT SLRP has awarded funds to 32 health care providers in 15 counties, increasing access to healthcare services in each county. An additional 47 health care providers expressed an interest in the SLRP Program, yet were not awarded due to lack of funding. Figure 34 illustrates the distribution of the funded and unfunded eligible SLRP applicants.

Figure 34: SLRP Funding by County



The Primary Care Office markets the opportunity for organizations to provide match money each year by contacting the eligible/unfunded SLRP Applicants and explaining to them how their employer might be able to provide the match funding and by contacting

organizations that have expressed an interest in the SLRP. In SFY15 and 16, the Primary Care Office entered into a partnership, with the Northern Montana Medical Center. The Center provided the required match amount for two committed Physician Assistants, which allowed the PCO to allocate a portion of the unmatched federal funds to these providers.

MONTANA RURAL PHYSICIAN INCENTIVE PROGRAM. “The Montana Rural Physician Incentive Program (MRPIP) was established to encourage primary care physicians to practice in medically underserved areas of rural Montana. This program assists in the recruitment and retention of primary care physicians by providing graduated debt-repayment benefits for medical education to physicians who practice in areas of the state that are medically underserved and that demonstrate the need for assistance in physician recruitment and retention. To be eligible providers must:

- Have qualified medical student loans
- Have MD or DO degree
- Be eligible for licensure in Montana

Program benefits allow payment of up to \$100,000 in total toward the qualified educational loans of participating health professionals over a one-to-five year period of service in a location of need.”⁴⁰

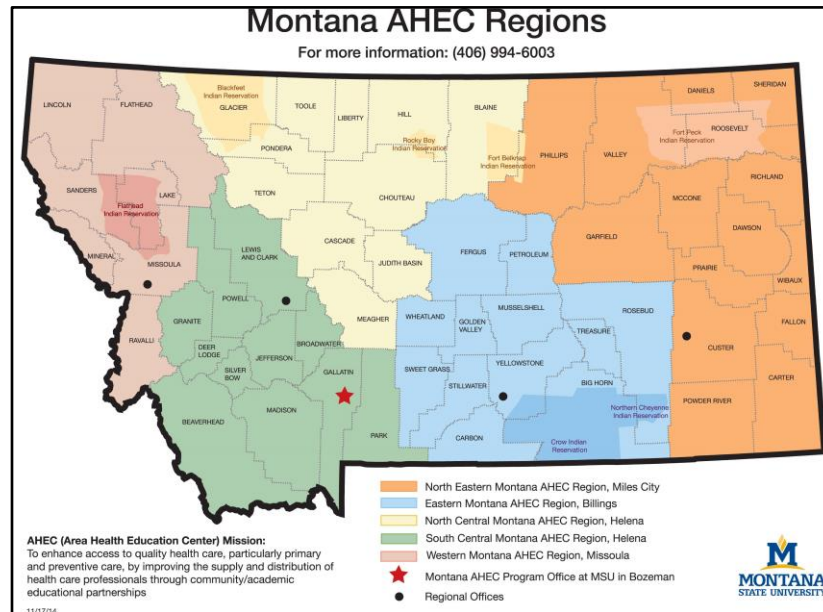
J-1 VISA WAIVER PROGRAM. Foreign medical students with J1 Visas are subject to return to their country of origin for at least two years at the completion of the exchange visitor program. The J1 Visa Waiver Program enables these providers to remain in the United States in exchange for practicing in an underserved area. Qualified foreign physicians must have completed their advanced clinical training in an approved US residency training or fellowship program and must agree to work in the shortage area for three years.⁴¹

J1 Visa Waiver applications are processed through the Montana Primary Care Office. Montana currently has 20 outstanding J1 visa waiver physicians practicing the following specialties: cardiology, family practice, internal medicine, general vascular surgery, neurology, rheumatology and hematology/oncology.

AREA HEALTH EDUCATION CENTER and OFFICE OF RURAL HEALTH.

AHEC recognizes the importance of collaboration to leverage energy and funding into improving the supply and distribution of primary care providers in Montana.⁴² AHECs coordinate and support networking opportunities for primary care workforce stakeholders. To accomplish this endeavor across the vast and varied state, Montana is separated into 5 AHEC regions that correspond with the regions reviewed in section II (Figure 35). Each region has a director/program manager, an established regional advisory council, and works to develop healthcare workforce strategies for their own region.⁴²

Figure 35: Montana AHEC Regions



In addition to regional activity, AHEC also coordinates collaboration at the state level as well. AHEC provides leadership for the Montana Healthcare Workforce Advisory Committee (MHWAC) was born. The purpose of the Committee has been to provide guidance to the state on how to assure that there is a well-trained workforce sufficient in number, breadth and quality to meet the need of all regions of the state.⁴³

“In September 2010, the MHWAC, in partnership with the State Workforce Investment Board (SWIB), was awarded a State Health Care Workforce Development Grant from HRSA (Health Resources and Services Administration in the US Department of Health and Human Services). The outcome of the grant has been the development of a Health-care Workforce Strategic Plan for Montana.

Membership in the MHWAC has expanded to over 100 enthusiastic and proactive participants representing the many facets of the healthcare industry in Montana. In order to solicit input and disseminate information, monthly meetings are held, as well as focus groups and profession/ sector specific workgroups.”⁴³ In 2011 MHWAC created a health workforce strategic plan for the state that centers on engaging communities, educating and training providers, and recruiting and retaining quality health professionals.⁴³

AHEC also supports programs such as the previously described Community APGAR Program for CAHs.

Figure 34

MONTANA PRIMARY CARE ASSOCIATION. The Montana Primary Care Association (MPCA) is a non-profit organization that provides training and technical

assistance to health centers (Figure 29), and advocates for policies and programs that improve access to health care in Montana.⁴⁴

MPCA's mission is to promote health equity for a thriving Montana by:

- Promoting proactive operational and clinical peer networks
- Advocating for expanded resources, partnerships, and supportive public policies
- Fostering seamless community-centered accountable care through expanded horizontal relationships
- Providing data that speaks to the value and effectiveness of Community Health Centers and MPCA
- Serving communities in need to identify solutions to health care issues.⁴⁴

MONTANA MEDICAL ASSOCIATION. “The MMA, as an organization, is charged by its members to represent all Montana physicians. The MMA endeavors to understand and promote the interests of physicians in all medical specialties, in all venues. Issues involved in the provision of medical care are common to those physicians who are employed by entities such as clinics or hospitals as well as those who are in private practice.

The MMA's priorities include the:

1. Preservation of the physician/patient relationship and patient choice of provider.
2. Promotion of ethical and professional behavior among physicians.
3. Promotion of the health and wellbeing of the populace of Montana.
4. Promotion of evidence-based health care practice and delivery.
5. Promotion of a legislative and regulatory environment that will enhance and not limit or impede priorities 1-4 above.
6. Collaborative effort with other health care entities and organizations to promote programs that support the priorities of the MMA.”⁴⁵

The MMA partners with the MT PCO to collect primary care physician data for the purposes of HPSA designations.

MONTANA DENTAL ASSOCIATION. “The Montana Dental Association is a professional membership organization, representing more than 650 Montana dentists. MDA is a constituent of the American Dental Association and is affiliated with ten local district dental societies across Montana.”⁴⁶ In 2015 the MDA partnered with the MT PCO to encourage MDA membership participation in the MT PCO provider survey for the dental HPSA designation process.

MONTANA HOSPITAL ASSOCIATION. “MHA is an association whose members provide the full spectrum of health care services, including hospital inpatient and outpatient, skilled nursing facility, home health, hospice, physician, assisted living, senior housing and insurance services. Every not-for-profit acute care hospital in the state is a member, ranging from the smallest critical access hospitals providing primary care services in Montana's rural communities to the largest tertiary care hospitals in the state.

MHA offers a variety of services, including advocacy of members' interests with state and federal governmental agencies and legislative bodies, regulatory assistance, data products, education programs and communications.” MHA is also home to the North and South Central AHEC Offices.

IV. CONCLUSION and RECOMMENDATIONS

The primary healthcare workforce is only one factor among a web of intersecting variables that impact health. Access to primary care services does not guarantee utilization, but utilization cannot happen without access. HPSA designations play a critical role in directing resources to improve access. However, HPSA scores are not necessarily reflective of communities with the highest unmet health needs. While there are slight to moderate trends between some health outcomes and HPSA scores (*i.e., immunizations and mortality rates*), these trends do not explain the nature or degree of the association.

This assessment is limited by available data. Health indicator data at the county level are not always available due to the challenges associated with data collection and analysis in frontier areas, and comparisons between communities with a large range in size are not valid. Health indicator data at the regional level may allow for comparisons between regions, but HPSA data are only available at the county and sub-county level. A more complex and regular analysis of a more complete set of provider data and health indicator data would be needed to assess any correlation over time and circumstance.

HPSA scores may not be reflective of communities with the most need in Montana because the scores are derived from standardized scoring criteria despite the unique differences in geographic and demographic needs. Distance, for example, is relative. Scoring criteria for distance to the nearest non-designated provider is maxed out at 50 miles or greater than 60 minutes of travel time for primary care HPSAs. In Montana, distances can be up to 300 miles or more (see Table 1). There is a significant difference between 50 miles and 300 miles, though they receive the same score. Great distances between rural and urban areas are more pronounced in eastern Montana where recruiting NHSC providers is more challenging despite approximately equal HPSA scores.

Primary care HPSA scoring criteria also include infant mortality rate and low infant birth rates. While this criteria may account for primary health care needs of the maternal and child health population, it does not account for the health care needs of the aging population. According to the US Census Bureau, Montana's elderly population is projected to increase to approximately 25% of the state's population by 2025, ranking Montana 5th in the nation for the 65 years and older age group. This demographic shift increases the need for primary care services, but this shift isn't reflected in primary care HPSA scoring.

In Montana, American Indian communities have the greatest unmet healthcare needs. American Indian communities are disproportionately impacted by social and behavioral risk factors, and have a higher incidence and prevalence of disease. American Indian communities also have Tier 1 HPSA scores that indicate a high level of need, more limited physical and financial access to health care, and have more difficulty recruiting and retaining providers.

Geographically, eastern Montana experiences a higher incidence and prevalence of disease and lower percentages of utilizing preventative care. HPSA scores do not

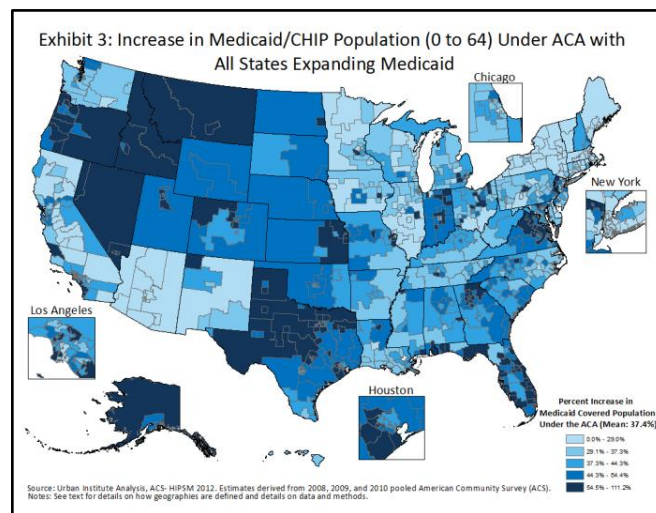
necessarily indicate a more significant workforce shortage in eastern Montana. However, due to the unequal distribution of NHSC providers (Figures 31-33) the workforce shortage may be more pronounced in eastern Montana because NHSC providers are not counted among the number of providers in the population to provider ratio used for scoring HPSAs.

MAXIMIZING STATE PROGRAMS. State programs such as SLRP use HPSA scores to prioritize workforce funding. However, HPSA scores may not be the best indicator of the workforce needs to improve the health of the population in Montana. In addition to the observations made above, HPSA scores do not fully account for the challenges of recruiting and retaining physicians and the impact these challenges may have on the health of the population.

Additional criteria for state programs to consider include, but are not limited to: 1) distances to urban centers more relative to Montana's vast frontier landscape, 2) the percentage of aging population, 3) the length of time the community has gone without a provider, or the length of time an organization has spent recruiting a provider, 4) available housing, and 5) the quality of schools.

HPSA DESIGNATIONS. HRSA implemented a new shortage designation management system (SDMS) in 2014. SDMS currently uses the percentage of the population at 100 percent of the poverty line instead of the percentage of the population at 200 percent of the poverty line to score HPSAs. This does not follow guidelines set forth in the federal registry or previous practice, which used the percentage of the population at 200 percent of the poverty line. If this error in SDMS is not corrected it may disproportionately lower HPSA scores in Montana because a greater percentage of Montana's population falls between 100 and 200 percent of the poverty line compared to other states. This percentage of the population is also reflected in the greater increase in the number of eligible enrollees from Medicaid expansion compared to other states (Figure 36).

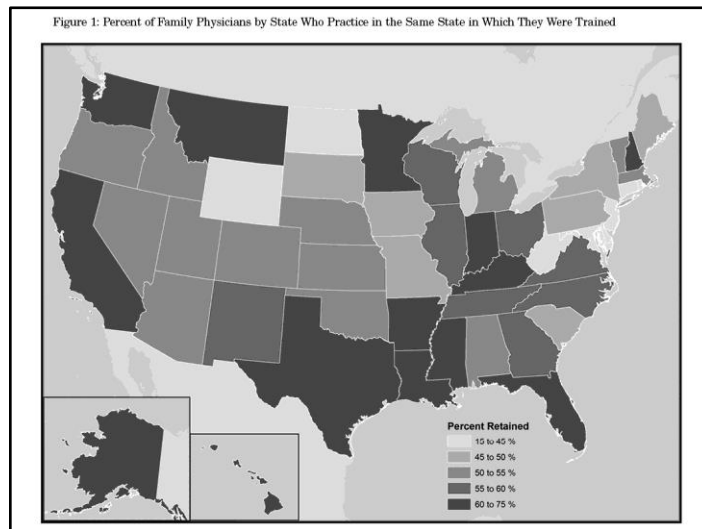
Figure 36: Increase in the Medicaid/CHIP population under ACA Medicaid Expansion



DATA. While the Montana Primary Care Office is involved in the full spectrum of improving access to primary care, its most influential role is provider data collection and analysis. Improvements in current data collection and analysis may improve access, delivery and utilization of services because better information leads to better policy and practice decisions. Mandatory reporting of provider data by primary care providers, as part of the annual licensure process, would eliminate gaps in provider data and allow for a more accurate analysis of primary care access and delivery patterns. Mandatory reporting would eliminate the inefficient, costly and outdated process of collecting provider data via telephone surveys and open up funding for more robust data analysis and dissemination.

GRADUATE MEDICAL EDUCATION. The national maldistribution of primary care providers is reflective of the maldistribution of GME slots.⁴⁸ The location of a provider's residency program is the strongest correlate with where a provider chooses to practice after graduation, even more so than the location of the medical school. According to a recent study, 55% of family medicine graduates in U.S practice within 100 miles of their residency.⁴⁸ Montana does even better retaining residents, with 70% of family medicine residents continuing to practice in Montana (Figure 37).⁴⁸ Addressing the primary care physician shortage in Montana requires increasing the number of residency positions in rural and frontier areas, and prioritizing funding for frontier training.

Figure 37: Percent of Family Physicians by State Who Practice in the State in Which They Were Trained ⁴⁸



REFERENCES

1. MT DPHHS (nd) Primary Care Office: Introduction. Accessed at <http://dphhs.mt.gov/publichealth/primarycare> on March 10, 2016.
2. Primary Care Progress (2016) Primary Care Progress: The Issue. Accessed at <http://www.primarycareprogress.org/learn/the-issue> on March 18, 2016
3. Warn D (2003) Living Sicker, Dying Younger. Northwest Federation of Community Organizations, Montana People's Action/Indian People's Action. Accessed at http://allianceforajustsociety.org/wp-content/uploads/2010/04/2003-1030_Living-Sicker-Dying-Younger.pdf on March 10, 2016
4. Cubit. (2016) Montana Demographics. Accessed at <http://www.montana-demographics.com> on March 18, 2016
5. Montana Governor's Office of Indian Affairs (nd) Governor's Office of Indian Affairs. Montana.gov Official Website. Accessed at <http://tribalnations.mt.gov> on March 18, 2016
6. US Department of Veterans Affairs (2015) VA Montana Health Care System. Accessed at <http://www.montana.va.gov> on March 3, 2016
7. Health Net Federal Services (nd) Veterans Choice Program. Accessed at <http://www.montana.va.gov> on March 18, 2016
8. MT DPHHS (nd) Increasing Services to Montana's Veterans through Training, Team Building, and Technology. Accessed at <http://dphhs.mt.gov/Portals/85/boardscouncils/AMDDveterans12022010.pdf> March 18, 2016
9. Rosston, K (2015) Suicide Prevention in Montana: Legislative Update. Accessed at <http://leg.mt.gov/content/Publications/services/2014-agency-reports/DPHHS-Suicide-Prevention-in-Montana.pdf> on March 18, 2016
10. Connell W (2013) Montana Economy at a Glance: Healthcare Labor Shortage and Potential Solutions. Montana Department of Labor and Industry, Research and Analysis Bureau
11. US Census Bureau. (2011). *2010 Census State Area Measurements and Internal Point Coordinates*. http://www.census.gov/geo/www/2010census/statearea_intpt.html
12. Index Mundi (nd) United States Population per square mile, 2010 by State. Accessed at <http://www.indexmundi.com/facts/united-states/quick-facts/all-states/population-density#chart> on March 18, 2016
13. Montana Department of Health and Human Services. (2011). *Montana Rural Health Plan*. <http://www.dphhs.mt.gov/qad/montanaruralhealthplan.pdf>
14. Rural Health Information Hub (2016) Health and Healthcare in Frontier Areas. Accessed at <https://www.ruralhealthinfo.org/topics/frontier>
15. Rural Health Information Hub (2016). Rural Tribal Health. Accessed at <https://www.ruralhealthinfo.org/topics/rural-tribal-health>
16. United States Census Bureau (2012) American Community Survey. Accessed at <https://www.census.gov/programs-surveys/acs/>
17. Rural Health Information Hub (2013) Montana. Accessed at <http://www.raconline.org/states/montana/> on December 24, 2013
18. National Center for Children in Poverty(NCCP). (2014) Montana Demographics of Young, Low-Income, Children. Columbia University, Mailman School of Public Health, Department of Health Policy and Management. Accessed at http://www.nccp.org/profiles/MT_profile_8.html December 2015
19. An Estimate of the Economic Ramifications Attributable to the Potential Medicaid Expansion on the Montana Economy" (2013): n. pag. MT Commissioner of Securities and Insurance. The Bureau of Business and Economic Research The University of Montana. Web. 27 Aug. 2015.
20. Kaiser Family State Health Facts. (2011). <http://www.statehealthfacts.org/mfs.jsp?rgn=28&rgn=1>
21. MT DPHHS (nd) Healthy Montana Kids. Accessed at <http://dphhs.mt.gov/hmk.aspx>
22. Kaiser Family Foundation (2015) Medicaid Expansion in Montana. Accessed at <http://kff.org/medicaid/fact-sheet/medicaid-expansion-in-montana/>
23. Hollingsworth T (2016) Oral Health Program Needs Assessment. Montana Department of Health and Human Services, Oral Health Program.

24. Kaiser Family Foundation estimates based on the Census Bureau's March 2015 Current Population Survey (CPS: Annual Social and Economic Supplements) Accessed <http://kff.org/other/state-indicator/distribution-by-employment-status-3/>
25. Schoen C, Radley D, Collins S (2015) State Trends in the Cost of Employer Health Insurance Coverage, 2003-2013. The Common Wealth Fund. Accessed at http://www.commonwealthfund.org/~media/files/publications/issue-brief/2015/jan/1798_schoen_state_trends_2003_2013.pdf
26. Salinsky E (2010) Health Care Shortage Designations: HPSA, MUA, and TBD. National Health Policy Forum. The George Washington University
27. Sanders SR, Erickson LD, Call VRA, McKnight ML, Hedges DW (2015) Rural Health Care Bypass Behavior: How Community and Spatial Characteristics Affect Primary Care Selection. *Journal of Rural Health*. 31: 146-56
28. Montana Department of Health and Human Services (2013) The State of the State's Health. Accessed at https://dphhs.mt.gov/Portals/85/publichealth/Publications/State%20of%20the%20State_s%20Health%20Final%209%20.2013.pdf
29. MT DPHHS, Office of Epidemiology and Scientific Support (2011) Community Health Data: Counties. Accessed at <http://dphhs.mt.gov/publichealth/Epidemiology/OESS-CHD> on March 18, 2016
30. Health Service and Resource Administration Data Warehouse (2016) HPSA Find Results. Accessed at <http://datawarehouse.hrsa.gov/tools/analyzers/HpsaFindResults.aspx> on March 18, 2016
31. "Montana Health Center Fact Sheet." *National Association of Community Health Centers*. N.p., 26 Jan. 2015. Web. 27 Aug. 2015.
32. US Department of Health and Human Services. CMS. (2015) Rural Health Clinic. Accessed at <https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/RuralHlthClinfctsht.pdf>
33. Alhrens JF (2001) Critical Access Hospitals: Their Role and Policy Implications in Primary and Long Term Care. Rural health care in Japan and the United States: shared challenges and solutions: conference summary and briefing papers. Mansfield Center for Pacific Affairs. Accessed at http://www.mansfieldfdn.org/backup/programs/program_pdfs/ahearn.pdf
34. US Department of Health and Human Services. CMS. (2015) Rural Health Clinic. Accessed at <https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/CritAccessHospfctsht.pdf>
35. Baker E, Schmitz D, MacKenzie L, Kinney L (2015) Assess Critical Access Hospital (CAH) Assets and Capabilities for Recruiting and Retaining Physicians: The Montana CAH Community Apgar Program. Boise State University
36. Montana State University, Area Health Education Centers (nd) Montana Community APGAR Program. Accessed at <http://healthinfo.montana.edu/workforce-development/apgar.html>
37. 3RNet. Healthcare Jobs Across the Nation (nd) Accessed at <https://www.3rnet.org>
38. US Department of Health and Human Services. National Health Service Corps (2016) Home. Accessed at <http://www.nhsc.hrsa.gov>
39. US Department of Health and Human Services. National Health Service Corps (2016) State Loan Repayment Program. Accessed at <http://nhsc.hrsa.gov/loanrepayment/stateloanrepaymentprogram/>
40. Rural Health Information Hub. (2016) Montana Rural Physician Incentive Program. Accessed at <https://www.ruralhealthinfo.org/funding/2517>
41. US Department of State. Bureau of Consular Affairs (nd) US Visas: Waiver of the Exchange Visitor Two-Year Home-Country Physical Presence Requirement. Accessed at <https://travel.state.gov/content/visas/en/study-exchange/student/residency-waiver.html>
42. Montana State University, Area Health Education Centers (nd) Montana Area Health Education Centers. Accessed at <http://healthinfo.montana.edu/ahec-program-office/>
43. Montana Healthcare Workforce Advisory Committee (2011) Statewide Strategic Plan. Accessed at http://healthinfo.montana.edu/documents/FINAL_FINAL.pdf
44. "MT Primary Care Association." *About MPCA*. N.p., 2015. Web. 27 Aug. 2015.
45. Montana Medical Association (2015) About. Accessed at <http://www.mmaoffice.org/about>

46. Montana Dental Association (2016) Who We Are. Accessed at <http://www.mtdental.com/who-we-are>
47. Montana Hospital Association (2016) Mission and Vision. Accessed at <http://www.mtha.org/whomha1.htm>
48. Fagan EB, Gibbons C, Finnegan SC, Petterson S, Peterson KE, Phillips RL, Bazemore AW. Family Medicine Graduate Proximity to Their Site of Training: Policy Options for Improving the Distribution of Primary Care Access. Fam Med 2015;47(2):124-130.

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